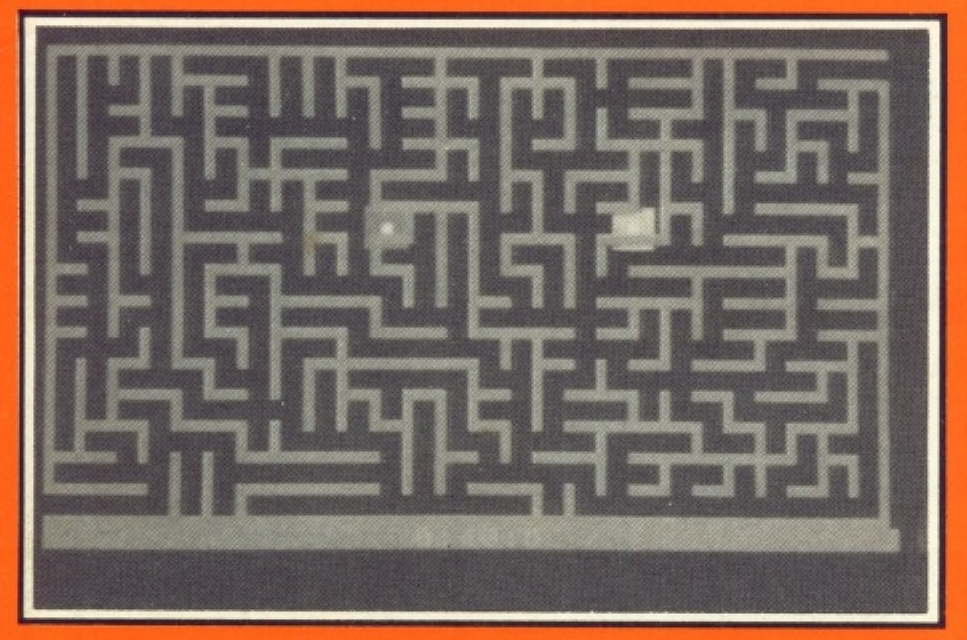
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Issue 68 - OCTOBER/NOVEMBER 1994 £2.50



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'The magazine for the Dedicated Atari User'

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SUBMISSIONS

PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

The next issue of NEW ATARI USER will be on sale 30th November
Editorial copy date is 24th October

PROGRAMS

FEATURES

REVIEWS

ST FILE

DEPARTMENTS

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PAGE 6 PUBLISHING's
NEW
ATARI
USER

Issue 68
October/November 1994

'The Magazine for the Dedicated Atari User'

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THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

The editor lacks the inspiration this issue (see music section!) to come up with anything clever so here's who is responsible

Les Ellingham put it all together from copy supplied by the regulars, who he thanks enormously, and from the dedicated readers who continue to send material in. They all deserve thanks for their part in keeping things going

Sandy chases the advertising, deals with all the post and a whole deal more but she would like more to do (ain't it about time you ordered something?)

A special thanks this issue to **Asad Sheikh** who provided valuable assistance when my laser broke last time and who ended up selling me his HP Laserjet without which this issue would not have come together

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

John S Davison — **Stuart Murray**
Paul Rixon — **Ian Finlayson**
Allan J. Palmer — **Nic Bavington**
Mark Stinson — **The Tipster**

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

Music inspiration this time? Well, Pink Floyd's The Division Bell, Van Morrison's new live album and The Pretenders new one (after 4 years) .... would all have provided inspiration in better times but, sadly, could not be afforded. Really it has just been Mary Chapin-Carpenter and Robin Williamson again with a little Chris Rea but a really nice surprise, and a much appreciated one, came from Ann O'Driscoll in Ireland who so kindly sent me a CD called A Woman's Heart which features some of the best Irish female singers such as Mary Black, Dolores Keane, Maura O'Connell and others. Some of the tracks I already have on other albums but the combination works superbly and the CD has had many plays. Not only has the music provided inspiration this time, Ann's kindness in sending me the CD in these music impoverished times is inspiration in itself and I cannot thank her enough for her consideration. Thank you, Ann, for your continuing flow of articles from which all Atari users can benefit and for your kind thoughts. If I ever come to Ireland, as I would dearly love to, I will look you up!

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, a HP Laserjet III, Citizen 124D printer, Philips CM8833 monitor, 130XE, XF551 disk drive, 810 disk drive, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, TariTalk, Turbo Basic and various custom written programs on the XL/XE. Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARITALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages as Postscript files is sent to a typesetting bureau to be output on a Linotron and, hey presto, finished pages are sent back exactly as you see them. It really does work! All that is left is to drop in the listings and photos.
Well, it's not quite as easy as that but you get the idea!

Editorial

I am reminded of the often misquoted words of Winston Churchill - *"Never have so many owed so much to so few".*

The response to our summer mailing of special offers was magnificent from the few who responded and there were many letters of support and encouragement included for which I offer my sincere thanks. Without your support this issue of New Atari User might not have happened.

So what's this about 'the few'? Well, roughly 12% of you took advantage of the special offers or new PD disks which means 88% were not sufficiently interested to spend £1.50 on a PD disk or even 50p on a cassette. Perhaps these people already have everything that was on offer, although somehow I doubt it.

The worrying part is that if so many subscribers are not willing to part with a very modest sum to support their Atari, how many will be interested enough to renew their subscription in the future? If we lose even 20% of our subscribers then the magazine in its present format will not be viable. We will have to look at alternatives.

Many of your letters of support included suggestions of how we might continue and most seem to say that the content is far more important than the presentation. I want to continue New Atari User (or PAGE 6) for as long as possible and your feedback would be much appreciated. My initial thoughts, if we are forced to make changes, are to go to an A5 size magazine produced in the same high quality style as the present magazine but without the printed program listings. This will enable us to keep the reading content about the same. The programs would be supplied on the Issue disk or as printed listings available free of charge upon receipt of a stamped addressed envelope.

So let's firstly have your comments on this idea. Let's also have your comments on whether to keep the New Atari User title or return to PAGE 6. And what about ST coverage, should this continue or not? How about including the new PD disks, or the order form, in the magazine which will save us having to print separate leaflets?

Let me emphasise that no decision to change has yet been made, it depends on the level of subscription renewals. If change is necessary though it would be good to know that it has your support. Drop us a line with your ideas.

SUMMER SALE CONTINUES

In order that the many can still have a chance to show their support we are continuing our Summer Sale prices for this issue. Check out the Accessory Shop pages for the remaining offers and order something now before the prices go up.

I know that the majority of you still care about your Atari so give it a little support and let it live a good while longer.

Les Ellingham

Check out The Accessory Shop Summer Sale this issue for some unrepeatable bargains!

News

IT'S GOODBYE TO ...

GRALIN INTERNATIONAL

Sadly another Atari supporter is no longer with us as Graham and Colin at Gralin International have decided to call it a day. Gralin was a 'spare time' business which supported the Atari for a good number of years but the pressures of full time employment in other fields have forced the lads to a decision which we all regret but which enables Gralin to bow out with honour. This is how Colin and Graham wanted the closure to be announced.

It is with regret that Gralin International are no longer trading. As many of you are aware Gralin has been a part time project and due to increased pressure in our full time jobs we are unable to continue. We do hope that in the future we will be able to continue to provide enhancements to our own Gralin products and we will let you know through PAGE 6, but this will be done on an individual basis. We should like to take this opportunity to thank all our customers and suppliers for their support. This has been a fun time for us and we have enjoyed working with all the 8-bit users. We wish all users success in the future - if you have any problems, please write to us and we will endeavour to sort you out.

So we say goodbye, but let's also say thanks for the support and for all the new products that Gralin introduced over the years.

AND HELLO TO ...

8-BITs FOREVER!

Many of you will have enjoyed Gordon F. Hooper's occasional articles in New Atari User which take a wry and amusing look at aspects of our hobby which we are all familiar with. Gordon's stories of life in the computer world make an enjoyable break from all the technical stuff and now you can enjoy even more with the publication of a collection of Gordon's writings.

8-BITs FOREVER! is the title of the A5 size booklet which brings together 17 articles which have been published in various magazines including New Atari User. If you enjoy Gordon Hooper's sense of humour you will love this collection even though some articles are about boating rather than computing.

8-BITs FOREVER! is available to European readers for £4 including postage. Gordon says he would prefer payment by money order but the banks now charge £7.50 for an International Money Order so that is out. Check with your local (or head) post office as a British postal order may well be valid in Canada (Canadian postal orders can be cashed in this country). Alternatively you might be able to take £4 along to your bank or local bureau de change (in travel agents) and get the equivalent in Canadian dollars. Whichever way do give Gordon a little support and thanks for his articles in New Atari User.

Send your money to ***GORDON F. HOOPER, 253 REGINA AVE., VICTORIA, B.C. CANADA V8Z 1J6*** and your copy of 8-BITs FOREVER! will find its way to your door.

See Inside Front Cover for lots more magazines and ordering details

Mailbag

Allan J Palmer delves into your latest letters

" Good Morning, Mr Palmer. Your mission, should you decide to accept it, is to compile another Mailbag column for PAGE 6's NEW ATARI USER magazine. As usual, should you or any of your Impossible Mailbag Force fail to fill a page, the Editor will disavow any knowledge of your existence ..."

Well, with the Ellingham's post-Easter holiday (so there was a delay in getting the mail relayed on from Stafford) and my personal commitments (like some decorating around the house, etc), the act of getting this column together in time for issue 68's deadline certainly seemed an impossible mission. If you're reading this in issue 68 then you know I succeeded, if not ...

MAILBAG is YOU!

Join in the debate by writing to

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PAGE 6 WRITER

John Bunting from Chesterfield, Derbyshire responds to Denham Phipps' enquiries in issue 66:

"I am in the process of compiling docs for PAGE 6 WRITER (P6W) and as a base I am using the docs for SPEEDSCRIPT. When complete I will pass the disk on to Les in the hope that he can put it in the PAGE 6 PD Library. I can tell Denham that SPEEDSCRIPT is a very close relative (fraternal twin perhaps) of P6W. There are subtle differences but nothing fundamental except perhaps for P6W's ability to recall DOS. There are a number of SPEEDSCRIPT's facilities, not mentioned in Phil Cardwell's article which are still present in P6W. In particular, keys 1, 2, 3 and 4 when entered with SELECT give ESCape, elongated print (one line), start condensed print and cancel condensed print respectively. I can confirm that there is a problem centring print other than standard; it is necessary to reset the right margin - SELECT-x and a number (try between 60 and 70 depending upon the length of the text) and some experimenting may be necessary. I seem to remember that when I had a 1029 printer it was not too happy when centring any elongated text and this will only serve to complicate matters.

"I could not understand Denham's problem with pressing RESET as this does not clear the screen on my disk version so I loaded the cassette version and yes, he is quite correct - so thanks, Denham, I'll add that to the docs I am compiling."

Thanks for the input John. We look forward to seeing your P6W docs disk.

Frank Atkin from Gosport in Hampshire has some further notes on PAGE 6 WRITER, including the reminder that the listing in issue 50 had one line (1600) missing about a third of its characters - the corrected line was printed in issue 51. Frank is also surprised at Denham having a cassette version of P6W as he wasn't aware that a cassette version had been "officially" produced. Frank notes that his cassette version came by way of the RAMBIT man, Dave Richardson, who was able to supply Frank with a TURBO Load tape of P6W. Frank is pleased that RAMBIT is *"...still around with a number of useful items including politeness from a really nice Atari enthusiast."* (RAMBIT's address is 16 The Green, Thurlby, Bourne, Lincolnshire PE10 0HB; 'phone 0778 424450).

Frank does make one puzzling statement in his letter. He writes *"...I have been a subscriber for a number of years and I have every issue from issue 3 of The UK Atari Computer Owners Club magazine, that was before it was called PAGE 6..."*.

I must correct Frank here; before becoming NEW ATARI USER, this magazine was always PAGE 6 from issue 1!. The UK Atari Computer Owners Club was a separate entity operating from Rayleigh in Essex from 1982 and published an irregular magazine which from issue 8 was called Atari MONITOR. This group folded in 1989 I believe and the last issue of MONITOR that I received was issue 21. Does anyone know what happened to the UKACOC PD Library which had a good selection of programs for that time?

SATISFIED READER

Jason Kendall from Bourne in Lincolnshire (do you know Dave Richardson, Jason?) is pleased to send *"...a short note to let you know about the wide appeal of PAGE 6 (NAU). After placing the advert in the Contact column of issue 65 for Ultima III/IV, I had several calls on the first two days after the magazine was delivered. I got the game I required and others as well for a very reasonable price. After a couple of weeks I received a letter from America! It just goes to show that if there's something you want for your Atari, place an ad in PAGE 6 - you may be pleasantly surprised!"*

DOS HELP

Mr F Hayman from Port Talbot informs us that he has *"...owned a 800XL since 1986 and has just got hold of a 1050 disk drive. I have DOS 2.5, but only a DOS 3 manual which doesn't help me very much. I would like to know how the DOS menu works and how I can access Binary Load and Save on the menu."*

Well Mr H, I believe Derek Fern of Micro-Discount has advertised copies of the DOS 2.5 manual in the past - he may still have copies available. As an alternative, if you can't find the official Atari printed manual, invest in a copy of Disk #107 - THE DOS 2.5 REFERENCE GUIDE from the Page 6 8-bit PD Library, this should get you off to a flying start with DOS 2.5.

Mr Hayman also notes that he *"...used to get Atari User, but after November 1988 I*

was unable to get any more copies". November 1988 was, of course, the last issue of Atari User published by Database Publications (now Europress). There was a small announcement inside that issue announcing that future issues would be published by Page 6. Sadly the number of magazines supporting the Atari Classic range has dwindled. If you're looking for another Atari 8-bit publication try the Tyne & Wear Atari User Group (P.O. Box 8, Wallsend, Tyne & Wear NE28 6DQ) who produce a regular A5 size magazine devoted to the Atari Classic.

Mr Hayman is also an Adventurer looking for help: *"...I am having trouble with 'Quest for Eternity' - getting past the dark area. I have tried the switch prompt, but without any luck..."* Can anyone assist?

SUPERDOS

Robert De Letter of Zelzate, Belgium is *"...an enthusiastic SuperDOS 5.1 user. It is fully compatible with Atari DOS 2.5 and it really supports my (excellent) XF551 drive: high speed transfer (skewed sectors), double sided and a lot more. However, can somebody tell me how I can put the DUP.SYS file of SuperDOS onto the RAMdisk so that it will be loaded from there every time I call DOS. The DUP file in SuperDOS resides under the Operating System and a lot of utilities use that area too. I wonder if somebody can develop a patch file so that DOS is loaded the way I want. If Mr Paul Nicholls (developer of SuperDOS) is still an Atari 8-bit user, then he may be able to solve this problem."*

POWER PACKS

M Tomblin of Basildon, Essex is still having problems with his 8-bit system: *"...first my 1029 printer went kaput, now my keyboard powerpack has followed it; what will be next? My 1050 disk drive runs off a AC powerpack which gives an output of 9 volts at 3 amps (is this correct?); it seems to work okay like this but will this be the next thing to go? Perhaps someone could write in with details of the various connections and power usage of the various Atari hardware units."*

This sort of technical information would be useful. Does anyone have the details to produce a guide to what power packs/transformers, etc. are suitable for which Atari hardware units? *(Yes, please. I have a whole box of power supplies built up over the years and no idea what they belong to! If nobody has access to all the hardware perhaps readers could write in with details of their equipment and maybe Allan could compile them for a Mailbag Extra? Ed.)*

TRANSFER TIP

Michael Clatworthy of Great Barr, Birmingham tells us that *"...after owning an Atari for about 10 years, I finally decided to buy a disk drive this year. To be precise, I came across it in Miles Better Software in Cannock whilst trying to find a 1040ST (which is now more difficult to find than ever). I was given the telephone number of PAGE 6 and purchased TransDisk and other bits and pieces. Having transferred most of my cassette software to disk, I have inevitably found that some programs won't transfer, one being Football Manager by Addictive Games due to its unconventional loading technique from BASIC.*

I devised a very simple program to overcome this problem, which is as follows - first load DOS and format a disk, then write DOS files to that disk; exit to BASIC, and then type LIST "D:MANAGER.BAS" to create a filename; position the Football Manager tape at the beginning, and type the following program:

```
10 OPEN #1,4,0,"C:"
20 OPEN #2,9,0,"D:MANAGER.BAS"
30 GET #1,A
40 PUT #2,A
50 GOT 30
```

RUN this program, press PLAY on the cassette recorder and RETURN and the program will be transferred to disk in about 15 minutes. To load the program afterwards, just use RUN "D:MANAGER.BAS" after exiting to BASIC from DOS.

If you have Disk #92 - MENU MAKERS from the Page 6 PD Library, you can create an AUTORUN.SYS file so Football Manager loads instantly without having to use DOS, by using the AUTOMATE program.

On the subject of tape to disk transfer, has anyone had any luck with M.U.L.E, Elektraglide or Goonies? I've tried everything, but just can't get them to load from disk."

TRANSDISK IV INFO

Referring back to the correspondence on TransDisk IV (TD4) in issue 64, Raphael Espino (of Peterborough, Cambridgeshire) adds these comments:

"...you can transfer files from one disk to another with any DOS that is DOS 2.0/2.5 compatible and/or supports double density. Daniel Baverstock's original problem was that he was trying to transfer the games onto a double density disk but the DOS he tried to use didn't support double density, hence the error messages. Dave Herbert notes that he loses some sectors on the disks when using MYCOPY2 from Futura, that is because he's using enhanced (dual) density. I can't help but feel that the discussion has gone full circle, since in my article in issue 61 I pointed out that the format TD4 uses for enhanced density is different to that used by DOS 2.5 and most (if not all) other DOS's which support enhanced density. It is this difference that makes you lose sectors on the disk as well as corrupt one of the TD4 menu sectors, hence the creation of DOS 2.0TD listed in the article. DOS2.0TD allows the transfer of TD4 games from one enhanced density disk to another enhanced density disk without corrupting the destination disk. To copy files from an ED disk to, say, a Double Density disk, the best way would be to copy the file from the original disk onto a newly formatted ED temporary disk using DOS2.0TD, and then from there onto the DD disk using a DD DOS. The same procedure applies in reverse, first copy from the DD disk to a temporary disk using a DD DOS, and then from there onto the destination disk using DOS2.0TD. I hope this finally clears things up somewhat. The basic rule is that if you want to use ED on your 1050 with TD4 then use DOS2.0TD, otherwise your disks will be get corrupted. If you don't use ED then feel free to use any other DOS to copy the files across, as long as that DOS supports the density you are interested in (i.e. don't try and copy from/to a double density disk with DOS 2.0)."

Thanks for that information on TransDisk IV, Raphael. It sounds like we now have the complete picture on how to manipulate TD4 files.

ATARI vs SEGA!

Christopher Jones of Bristol is *"...the proud owner of an Atari 800XL, an Atari 2600 VCS, and a Sega Master System. I am disappointed in the lack of support we Atari users have when it comes to new releases. I've been doing some research into the Master System on the Nintendo Game Boy and have found some interesting comparisons. For a start, the 800XL, Sega and Nintendo each have 64K RAM. My Atari has 4 channel sound and the other machines only have 3 voices. From this comparison we see that a 130XE would have a larger scope for programming than either of these "better" machines. Our Ataris have 256 colours and the other machines have between 8 and 64; and they have the same screen resolution as the Sega. Also where are the other releases like Afterburner or Prince of Persia? I've seen them on the Commodore 64 and feel that on the Atari they could be a success."*

Christopher also has a few questions which I will try and answer:

"I have an Atari 1064 and I would like to know what it does on an 800XL?"

The 1064 was a memory expansion module specifically designed to increase the 600XL's 16K RAM to the same 64K level of the 800XL. As far as I'm aware, plugging a

Mailbag

1064 into a 800XL has no effect - at least I've never seen it documented anywhere. Has anyone got any info?

"What exactly is the 1200XL?"

The 1200XL was the first new Atari 8-bit model after the original 400 and 800 models. It was similar in styling to the later 600XL and 800XL models and introduced a number of the XL features; however, it was not as compatible as it could have been, and after a short period of U.S. only distribution disappeared when the 600XL and 800XL appeared.

"Why did the Atari 400 have two cartridge slots?"

The Atari 400 only had one cartridge slot; the Atari 800 had two slots. At the time of their appearance, the Atari 8-bit range was built around the concept of cartridge software. These cartridges were envisioned as containing approx. 8K of program to supplement the machines' RAM. In the larger 800, the concept was that you could add a cartridge to the left slot initially, and future developments might see the need for a second cartridge to sit alongside the first to give greater scope (this was before the appearance of the larger "super-cartridges" which coped with 16K in one cartridge). I believe the only cartridge designed to specifically work in the 800's right hand slot was Monkey Wrench, a suite of utilities.

THE ATARI 1200XL

On the subject of the rarest Atari 8-bit, Raphael Espino adds these points about the Atari 1200XL mentioned is a previous column:

"...bypassing the built-in OS can be quite useful (that's what Turbo-BASIC does as well as a lot of other programs), and the ability to disable the keyboard and the screen is also built into the rest of the XL/XE series. The only problem is that the 1200XL function keys did not appear on later models. However, I do know of a commercial program that allows you to simulate the 1200XL function keys on any other XL/XE and so allows you to disable the keyboard and screen at a keypress."

EDUCATIONAL SOFTWARE

Mr J Phipps from South Harrow, Middlesex writes:

"I gave up using my 800XL several years ago, but just recently I decided to take it out of mothballs as my son, who is now 4 years old, is of an age when he can enjoy playing games on a computer. The one thing that there seems to be a lack of is software for children. I recently purchased a copy of your I LOVE MY ALPHABET (PD Library disk #232), which he likes very much, but that seems to be just about it. I don't mind him playing games, but I do wish there were more educational programs available."

Yes, educational software always seems to have been scarce in this country for the Atari Classic. You might like to investigate **JUGGLES HOUSE**, **JUGGLES RAINBOW** and **SPELL ME** from the Page 6 Accessory Shop. I'll throw this out to our readership - what educational programs would you recommend on the Atari?

1050 PROBLEMS

Dennis Fogerty from Salisbury, Wiltshire offers these tips in respect of disk drive problems mentioned in a previous column: *"You mention in issue 67 two readers having trouble with their 1050 drives which will not save or format yet loads perfectly, and it reminded me I had the same problem a few years ago. That time, roughing the pressure pad had no effect. I think it must have been a tiny piece of disk label which had broken off and obscured the write-protect sensor because I eventually solved the problem by pushing a portion of cotton handkerchief, lightly moistened with Surgical Spirit, into the left-hand side of the disk carrier aperture. I used a credit card as a probe and, afterwards, normal service was resumed. Since then, the fitting of a write-protect switch (all due credit to the inventive Mr. Derek Fern), has avoided repeat problems."*

Also on the subject of 1050 problems, Raphael Espino from Peterborough, Cambridgeshire notes: *"...about the drive that would read but not write or format - I had exactly the same problem with my 1050 a while back and tried the suggestion of roughing up the felt pad but with no luck. I discovered that the problem was with the sensor that detects whether the disk in the drive is write-protected or not. The solution I found was to build a write-protect switch such as that featured in NAU issue 43 (or buy one from Micro-Discount if you don't feel like building your own) to bypass the sensor. I'm happy to say that the drive is still working."*

Thanks for those comments, Dennis and Raphael

RAMDISK HELP

Dennis Fogerty also has this information regarding multiple RAMdisks:

"Andrew McIntosh asks if it is possible to have two RAMdisks on a 256K machine. The YORKY SUPPORT disk, an Enhanced Density Public Domain disk issued by Richard Gore, has a modified Atari DOS 2.5 which allows two 707 sector RAMdisks to be set up simultaneously in D7: and D8:. All that's required is to rename the file RAMDISK.OBJ on the disk to RAMDISK-.COM. I presume Richard's prime reason for compiling the disk was to support his sales of the YORKY 256K upgrade, (an add-on which I can highly recommend). The YORKY SUPPORT disk is available separately from his PD library. Richard Gore's address is: 79, Sprotbrough Road, Sprotbrough, Doncaster, DN5 8BW"

Brad Rogers from Southampton offers these comments:

"I regularly use 3 RAMdisks using SpartaDOS X. With SpartaDOS, it is possible to use some, all or none of the extra RAM, the default being 4 banks for use with BASIC XE and all remaining banks for "D9:". The defaults can be overridden using a batch file on startup. This isn't much use for people without SpartaDOS I know, but may be of interest to some."

Again I hope Dennis' and Brad's comments will be of assistance to those wishing to use the power of their 256K machines.

ANTIC & ANALOG MAGAZINES

Dennis Fogerty also notes: *"You mention reference to September 1989 ANTIC and, indeed, NAU often mentions articles that have previously appeared in the defunct ANTIC, ANALOG and COMPUTE magazines. But we never see them!! How about printing a few in NAU, or is there a problem with copyright? Back in 1991 Gralin International were advertising copies, but not recently. Is there still a U.K source of supply?"*

At one stage, Page 6 had a reciprocal agreement with ANTIC where they could reprint articles from each other's magazines (I think more Page 6 items appeared in ANTIC than vice versa). I'm not sure what the copyright situation is in regard to this. Perhaps our esteemed publisher could clarify the situation? *(I am not really sure about the copyright but I suspect that, even though ANTIC agreed that their programs could be regarded as public domain, the strict legal situation is that the copyright remains with the original publishers and any commercial reproduction would require special permission. Of course ANTIC and ANALOG are no longer being published but check out this issue though for a one-off offer on ANTIC and other American magazines for your Atari. Last chance to complete your collection? Ed.)*

DISK BOXES

Brad Rogers of Southampton, Hampshire responds to an enquiry about the availability of storage boxes for 5.25" disks: *"May I suggest that anybody wanting them look at adverts in magazines for PCs, e.g. 'Computer Shopper' as some PC users still use 5.25" disks. The same advertisers will also sell 5.25" disks, which are now available at almost ridiculously low prices."*

You might also look in one of the Acorn specific magazines - users of the BBC micros still use 5.25" disks and you'll find advertisers of 5.25" disk sundries there also.

RAPHAEL'S RAMdisk

Raphael Espino from Peterborough, Cambridgeshire responds on Andrew McIntosh's letter: *"...on my code for the renumbering of the DOS 2.5 RAMdisk - I've discovered what was wrong, and it actually has nothing to do with the POKEs; lines 50 through to 80 should have had a +48 after the RAMD (i.e. RAMD+48). However, that doesn't matter as I've improved on the code since and the new code is included below. The improvements over the old code are; it actually works!; it will now tell you what the RAMdisk number on the "Setting up Atari 130XE RAMdisk" screen; there is no longer any need to modify the DOS.SYS files (you don't have to go to DOS and use menu option H, all the modifications are done directly from the RAMDISK.COM file) and the new version is in Atari BASIC, rather than TURBO BASIC (not that there is that much difference). Using it is simple: just run it with the RAMDISK.COM file that you want to change on the disk in drive 1. The advantages of my code over Bill Wilkinson's in the Mailbag column is that with his you have to load and run the program every time you want to renumber the RAMdisk from the default "D8:". With mine you just change it once and it stays changed and you don't need to run BASIC so you can renumber the RAMdisk and boot without BASIC which can be useful with other programs such as TextPro. The advantage of Bill's code is that (with a little tinkering to the code) you can renumber the RAMdisk without having to reboot, as many times as you like. There is also a slight (nothing major) "feature" in Bill's code: anyone using the code to renumber the RAMdisk will soon notice that when you try to access the renumbered RAMdisk there is always a small delay accompanied by a buzzing sound from the TV speaker. To fix this there needs to be another line included in the code:*

```
225 POKE 4191, RAMDRIVENUM
```

This modification will get rid of the "feature".

Now here's my improved code:

```
5 RAMD=3: REM change RAMdisk number
  here
6 BIT=0: CNT=0
7 IF CNT=RAMD THEN 10
8 BIT=(BIT=0)*1+BIT*2: CNT=CNT+1:
  GOTO 7
10 DIM DAT$(1088): DAT$(1088)=" "
20 OPEN #1,4,0,"D:RAMDISK.COM"
30 FOR Q-1 TO 1066: GET #1,D:
   DAT$(Q,Q)=CHR$(D): NEXT Q
40 CLOSE #1
50 DAT$(670,670)=CHR$(RAMD+48)
60 DAT$(807,807)=CHR$(RAMD+48)
70 DAT$(856,856)=CHR$(RAMD+48)
75 DAT$(941,944)="DISK":
   DAT$(945,945)=CHR$(RAMD+48)
76 DAT$(997,997)=CHR$(BIT)
80 DAT$(1017,1017)=CHR$(RAMD+48)
82 RESTORE: FOR Q=1 TO 22: READ D:
   DAT$(Q+1066,Q+1066)=CHR$(D): NEXT
   Q
85 DAT$(1072,1072)=CHR$(RAMD)
90 OPEN #1,8,0,"D:RAMDISK.COM"
100 FOR Q=1 TO 1088: D=ASC-
    (DAT$(Q,Q)): PUT #1,D: NEXT Q
110 CLOSE #1
1000 DATA 0,60,41,60,169,0,141,128,7,141,
     137,11,141,95,16,96,226,2,227,2,30,60
```

Thanks for doing what I couldn't Raphael, and finding the solution to the reported bug.

SOLUTIONS OR NOT?

Raphael Espino also has these comments: *"...concerning Eddie Cousins' moan about the Tipster printing the complete solutions to games and therefore spoiling his enjoyment, his main gripe seems to be against the printing of the solution to Tiger Developments' 'Tarkus and the Crystal of Fear'. Firstly, the solution was printed over a year after the game was released so I don't think the comment about "...to find the solution is published within weeks of its launch..." to be adequate in this case. In fact in my experience, the solutions usually come through a long time after the game is released (the only exception I have found was with Tiger Developments' 'The Citadel' and 'Tarkus and the Orbs of Doom' solutions in that same issue). Secondly (and more importantly) I wonder if he actually played the game through even once, with or without the solution (in fact I wonder if anyone did) since the solution printed in the Tipster's pages is actually wrong!!! However, I have not seen anyone correct the mistake as of yet. True it is only a small mistake, but significant."*

AND FINALLY...

Amongst some flattering comments about the Mailbag column, Dennis Fogerty adds *"...my mind boggles just to think of the work involved in compiling 4 pages (of Mailbag) on such a regular basis".*

Well Dennis, let me tell you my mind is usually boggled by the time I've completed work on each column! Luckily, we're still getting a mix of letters (but more would not go amiss - hint! hint!) and you, the readers, do a lot of the hard work by initiating new topics of discussion and responding to other people's comments (and correcting me where necessary ...).

One last thought, if you're into 'classic' TV, have you seen that Mission: Impossible episodes are now available on video - they're starting with the first episode and look to be releasing them in sequence ...

"...this tape will self-destruct in 5 seconds!"

News Extra

NEW SHOP AND REPAIR SERVICE

Long time Atari fanatic Keith Hughes has recently opened a shop which, along with the usual Sega, Nintendo, Amiga and PC stuff will include support for all Atari machines. In addition he is offering a repair service for 8-bit machines and equipment (probably ST's as well). The shop is:

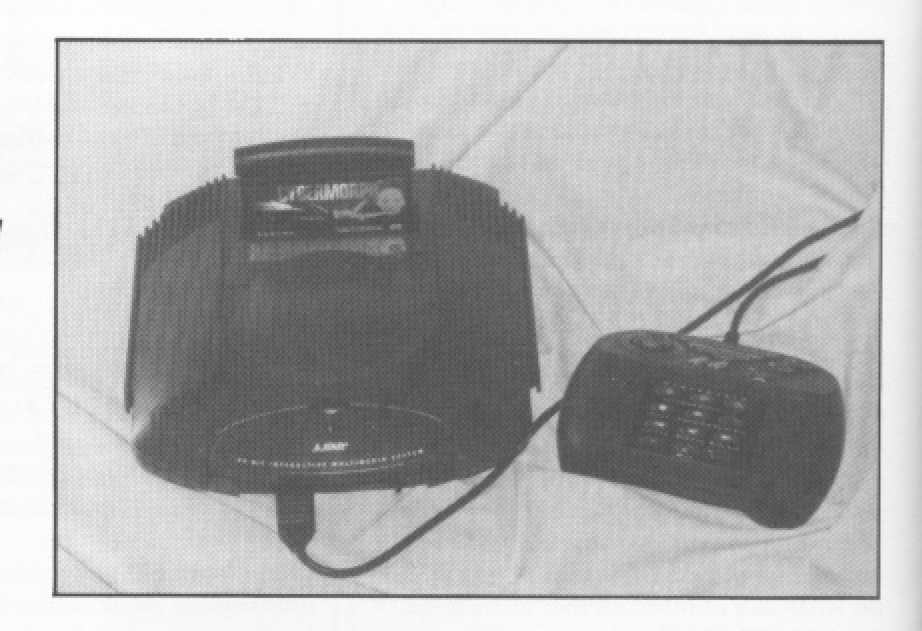
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Tel. 0384 823457



Not yet an endangered species ...

THE ATARI JAG

Only a few Jaguars have made these shores so far but Peter Davison and Mike Airey managed to track one down for us. Here's what they thought of Atari's latest wonder machine



Having begun with their series of 8-bit Classics then advancing to the 16-bit ST, Atari have now beaten the rest of the world to develop the first ever 64-bit games console - the Jaguar!

Whereas most companies have just gone to 32-bit machines, Atari have plunged straight in at the deep end with a revolutionary new machine. It boasts some pretty impressive technical specifications too, being 64-bit with a sixteen million colour palette (16,777,216 to be exact). There is no fixed screen resolution, this being totally software dependant. It will go up to the equivalent of Super VGA (high resolution 256 colour graphics) on the PC, or it can display 24-bit colour graphics at 720x576 resolution but this will probably only be used on CD games due to the immense strain it puts on the processor. The sound system is 16-bit stereo (CD quality), which is based on Atari's Digital Signal Processor technology (DSP - also found in the Falcon). This is a big step forward from the ST where 16-bit sounds were rare. It runs remarkably quickly, handling up to 106.4MB of data per second.

The Jaguar has two main custom chips (affectionately known as Tom and Jerry) each containing four major components. The Jerry chip contains the DSP sound circuitry, 8k of SRAM (Static RAM), a sound block, and a block for timers, joysticks and clock control. The Tom chip contains a memory controller, object processor, Graphics Processing Unit (GPU) with 4K SRAM and a blitter (as found in the STE) which speeds up several graphics operations. The Jaguar contains 16 Mbits of RAM, and is based around the MC68000 processor clocked at 13.3 MHz, which is used mainly for co-ordinating the data flow between the specialised processors. Jaguar's gameplaying performance is designed to be similar to a high-end IBM PC and, for the price (£229.99), it represents a very good deal.

The hand control pad is a very complex affair and looks rather daunting at first. It contains a directional pad, three fire buttons and a telephone style keypad at the bottom. Each game provides an overlay for this keypad to show what each button does.

The graphics capabilities are very impressive. The chips within the unit can do real-time shaded polygons (three-dimensional blocks) and can overlay bitmap graphics onto them at a remarkably high speed. This makes for some stunning visuals.

ANY GAMES YET?

At the time of writing the only game generally available in the UK is **CYBERMORPH**, which is packaged with the Jaguar. Any Defender or Rescue on Fractalus fan will recognise the style of gameplay in Cybermorph. It mainly revolves around flying over a smooth scrolling 3D planet built of polygons and grabbing little yellow pods before aliens take them away. The action is quite fast, but the game has limited 'lastability' as gameplay becomes quite monotonous after a while.

The graphics move quickly and smoothly, and they are all shaded so look quite impressive. A special technique known as Z-Buffering is used, which allows polygons to be merged with one another. This is all used in Cybermorph to create some absolutely stunning special effects. The main ship performs some incredible 'morphing' between its different forms and this is, again, done very smoothly. The sound, however, isn't really using the machine's full capabilities. For instance, the engine noise sounds almost the same as Defender on the 8-bit Atari!

GUAR

There's also an extremely annoying green head (a bit like Hollie in the Red Dwarf TV programme) which pops up onscreen all too frequently making moronic remarks in a very patronising way. Fortunately the speech volume can be turned down, a great relief once the novelty of it has worn off. If Atari had left out this option there would probably be a noticeable increase in sales of replacement television sets, caused by Jaguar owners hurling controllers at the screen in fits of exasperation! The speech used by this 'character' is very clear but far too arrogant sounding, which makes it appear so condescending.

Gameplay is extremely hard, and there isn't an option to change the difficulty level (very frustrating on certain stages). It plays quite well for a while, but soon becomes a little boring once the innovation of the fancy shaded polygons has worn off. It's basically the same all the way through (collect pod, shoot enemy, collect pod, avoid mountain, etc.).

Overall, Cybermorph is a good game but we've seen so many of the ideas before. It's basically Defender's gameplay crossed with the 3D view of Rescue on Fractalus. If a few extra ideas had been added, this would be a brilliant game, but as it stands it's a little disappointing for the first release of a major new format.

There are lots of new games planned for the future. These include **DOOM**, **ALIEN VS PREDATOR**, **KICK OFF 3**, **CHECKERED FLAG 2**, **CLUB DRIVE**, **JAGUAR FORMULA ONE RACING** and **BATTLEZONE 2000**. Four games are scheduled for release during April 94. These are **RAIDEN**, **EVOLUTION: DINODUDES** (known as HUMANS on other formats), **TEMPEST 2000**, and **TREVOR McFUR IN CRESCENT GALAXY**.

A COMPARISON

The Jaguar is certainly an amazing machine but how will it fare against the established console favourites of today?

Compared to Nintendo's Super Nintendo and Sega's Megadrive the Jaguar looks immensely powerful. It's much faster at handling graphics, it can zoom and rotate much quicker than the SNES, and has much clearer sound than either, however this is only to be expected from a console using technology a generation on from its competitors.

How does the Jaguar compare to Atari's other 'main' games machine, the hand-held Lynx? It's certainly a lot quicker and has better graphics. The Lynx is smooth with it's zooming, but the Jaguar can do it even more fluidly. Then again the Lynx is only 16-bit, and what it does, it does extremely well. Many people who worked on games for the Lynx are now producing for the Jaguar, as are many other software houses, so the future outlook is good - assuming Atari get their Jaguar marketing act together!

Many of the games planned are major rewrites of old favourites from the Atari Classic and the ST with such added delights as full scaling and rotation, stereo sound effects, and improved gameplay. For example, Tempest, when it was released on the ST, was slated for it's terrible graphics and sound. On the Jaguar, however, Tempest 2000 has already been dubbed by one magazine as 'the best shoot 'em up ever!'

FUTURE ADD-ONS

Already out in the USA, the CD-ROM drive for the Jaguar allows you to play much bigger games than you could off cartridge. It also allows you to play regular music CDs and Kodak's new Photo-CDs. It plugs into the Jaguar's cartridge port and sits in a groove on top of the machine. According to one industry expert, it looks a little like a toilet, and the lid even lifts up like one! It uses a double-speed CD-ROM drive and so can play video clips and produce superb sounds at a decent speed, in turn increasing your enjoyment of the machine.

There's also a custom edge connector on the back of the Jaguar for linking to a modem. This allows multiple player games all across the country via the telephone lines.

AVAILABILITY

The Jaguar is not generally available yet. Only a few have been shipped into the UK so far and these have been snapped up by magazine reviewers and other lucky people. You're very unlikely to find any in the shops just yet, but they should start appearing in a few months time.

Quite a big surprise came when IBM announced that they would be responsible for producing the machine for Atari. They are also in charge of distribution. This is a shock, because IBM are mainly involved with business computers, and the Jaguar isn't really their style.

Atari have announced that the games coming out for the machine should cost no more than Nintendo or Sega games. If they do cost more, Atari will lose many sales, because prices of the Megadrive games are now rising above the £60 mark. For example, the Virtual Racing cartridge, which contains a new chip to speed up graphical operations, costs over £70!

OVERALL COMMENTS

The Jaguar is an amazing machine without a doubt, but it does need the promotion from Atari which has been sadly lacking with other Atari products. We have heard that Atari are planning to spend £45 million on worldwide promotion of the Jaguar. If they achieve this, we feel that the Jaguar could be THE biggest selling console around. This also depends on the price and quality of the games produced over the next year. Hopefully these new games will exploit the machine more than Cybermorph. With the imminent release of the modem and the CD-ROM drive, the Jaguar looks like being the future of gaming as we know it.

Special thanks to John Davison Jnr., Managing Editor of Maverick Magazines, for the loan of the machine and Cybermorph game.

SAM EXTRAS

In issue 63 I examined the SAM Desktop System, a new 80-column operating environment designed by Harald Schonfeld and Andreas Binner. SAM transforms your Atari's 'front end' from an uninspiring Ready prompt or DOS screen to a mouse driven GEM-like desktop with windows, pull-down menus and several integral utilities. The catch is that SAM cannot launch standard DOS programs, so its usefulness is limited to the scope of those facilities provided. Recognising this drawback, the authors have been working on a new range of accessories which can be launched from SAM's 'Access/Info' menu option. SAM Utility Extensions 1 and SAM Budget are the first two accessory disks to arrive via the UK distributor, Dean Garraghty Software.

SAM UTILITY EXTENSIONS 1

SAM Utility Extensions 1 comprises two separate programs. Firstly, **SAM CONVERT** is a file conversion utility for the SAM Texter application which is supplied on the desktop system disk. Its purpose is to transform documents created using a variety of word processors into the unique format required by Texter (and vice versa). When you select Convert from the accessory list, a menu presents five alternative options - ASCII to SAM, Atari Writer to SAM, Star Texter to SAM, Austro Text to SAM and SAM to ASCII. I haven't come across Star Texter and Austro Text before, but they are apparently well known to German Atarians. Because SAM Texter restricts file lengths to 14400 bytes, you may need to convert large external files in several passes. This point aside, the whole procedure is quite straightforward.

The second accessory, **SAM CREATOR**, is an extension to SAM Painter which, like Texter, is a utility that's provided with the main desktop. It allows you to import files from the popular Micro Painter format, and also scan boot disks (e.g. commercial games) for pictures. If you find something artistic lurking within the sectors, it can be saved as an individual file for subsequent transfer to either Micro Painter or SAM. There are two pull-down menus in Creator - File and Options. From the File menu you can load from or write to a disk at a selected start sector, and also load or save a picture file in the desired format. The Options menu lets you toggle the picture formats, set the verify and sound status and select a disk drive number to use.

If you plan to experiment with Texter or Painter then these Utility Extensions should certainly prove helpful. Both accessories are based upon the standard user interface conventions of the SAM Desktop, so if you're accustomed to this system you'll know what to expect.

SAM BUDGET

Above all else, computers are good at performing rapid calculations. Spreadsheets provide an interface to the computer's raw processing power - they allow you to tabulate numbers and formulae and subject these to complex or repetitive computations. **SAM BUDGET** is a basic spreadsheet application for users of the SAM Desktop. An obvious use is to keep track of your personal finances, hence the title of this program.

Spreadsheets vary in their size and power. SAM Budget permits a total table size of sixteen by sixty-four cells - not exactly huge but probably sufficient for modest purposes. Thanks to SAM's 80-column display mode, you can always view a 'window' of nine by sixteen cells. Each cell is fixed at a width of eight characters and may contain a number, descriptive text or a formula. Formulae can use the standard arithmetic operators and refer to actual numbers or the contents of other cells in the spreadsheet. The mathematics functions available are Square Root, Logarithm, Exponential and Absolute value. Other functions allow you to find the sum, average or extreme values of cells in a selected range. To perform the final calculation, you must click on 'Calc' from the pull-down menu.

A variety of editing options enable you to carry out common tasks such as inserting new rows, moving to a particular cell, erasing portions of the spreadsheet and copying sections from one location to another. There are some noticeable omissions however - for example, you can't copy a formula to other cells so that the references are automatically adjusted. Having created your spreadsheet, the whole table or a section can be saved to disk for future reference. Finally, you can print out the entire spreadsheet using an Epson compatible printer. If your printer is not wide enough to accommodate the full width of the table, you can print the left or right halves separately.

SAM Budget is, by any standards, rather restricted in its capabilities. To be fair, the program is primarily intended for personal budget calculations and doesn't pretend to compete with more sophisticated packages. If you want to become a serious spreadsheet user this one is unlikely to impress but if you're committed to using SAM, SAM Budget is well worth having as an extra.

ORDERING INFO

SAM Budget is priced at £6.95 and SAM Utility Extensions 1 at £3.95. These programs will only work in conjunction with the SAM Desktop System which is available separately, price £13.95. All items are produced by Power Per Post and distributed in the UK by DGS, 62 Thomson Avenue, Balby, Doncaster, DN4 0NU. Telephone 0302 855026.

reviewed by Paul Rixon

Dear Reader,

During the last two years, ANG has introduced the following games to the Atari 8-bit market in Europe:

ANG Productions
Whoops, ***Whoops II***, Basicdup, TML Drumeditor, ***Saper Constructor***, Zebuland Utilities, Shit!, Color Font Editor, ***Thinx***, Johnny The Ghost, Stereo Drumeditor II, ***Mines***, ANG Sample Utility Disk, ***Sound Tracker Player***

ANG Licenses
Eureka, Deimos, Dark Abyss, Atomia, ***Thinker***, Tanks, Inside, Midnight, ***Special Forces***, Technus, Sexversi, ***Operation Blood (+ lightgun)***, Alchemia, ***Johnny's Trouble***, SOS Saturn, Axilox, ***Battle Ships***

ANG Import
Adax, ***Artefact***, The Convicts, Digi Duck, Drop It, ***Darkness Hour***, Fred, Mission Shark, Gabi, ***Hans Kloss***, Hydraulik, Monstrum, ***Humanoid***, ***The Curse***, ***Kult***, Imagine, Muff, ***Miecze Valdgira (1 & 2)***, ***Tactic***, Smus, Neron, Chaos Music Composer, ***Saper***

Now it's up to you! We will support Page 6 with new items to review, we will support you with new productions and import as long as you support us! Most items are available through our distributors all over Europe or all items directly from ANG software!

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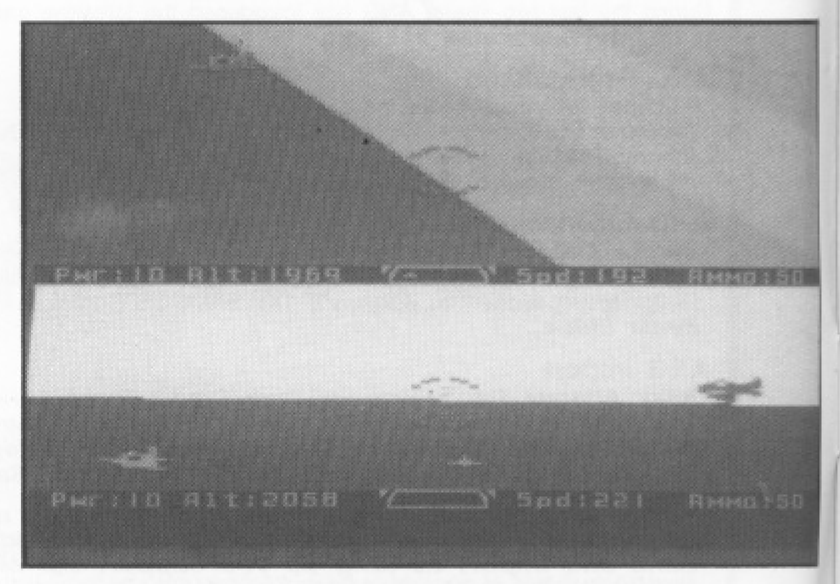
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Have you got what it takes to become an ace pilot? MIG ALLEY ACE is still one of the best combat flight simulators

There are hundreds of famous games for the Atari Classic but most of them are no longer available. Software Classics looks at the games with a difference - you can still buy them today!

MIG ALLEY ACE

MIG ALLEY ACE is an aerial combat simulation by Microprose Software who had a base in Tetbury, Gloucestershire. The game was written at the height of the Atari Classic boom, back in 1986, and is Atari 400/800 and XL/XE compatible (48k memory required).

Microprose were a highly respected software house in Atari and other computer circles, and they produced some real gems including: Solo Flight, F-15 Strike Eagle, Hellcat Ace and Spitfire Ace. They also produced war simulations, a submarine simulation (Silent Service) and an Air Traffic Control simulation (Kennedy Approach), among others. Microprose in the USA were reported as spending $1 million developing each simulation in the mid 1980's, so the quality of this game is obvious.

In Mig Alley Ace you play the part of a pilot (Squadron Leader in fact) in charge of a jet fighter during the Korean War. The Korean War commenced in 1950 when the USSR moved its troops in to southern Korea. A three year conflict ensued, and Mig Alley Ace simulates five stages of the conflict. Each of the five scenarios presents a different challenge, using different aircraft, and can be selected for play at the start of the game.

After booting the game, you are given three choices of game state: solo (against the computer), two player head-to-head, and two player cooperative. The latter option allows two players to do battle with the computer jointly. I have not tried this option yet, although I am sure it would be great fun. You may also choose from the five scenarios available and four skill levels. The scenarios to choose from are as follows: Battle for Pusan September 2nd 1950 - using an F-80; Sunchon Airdrop October 20th 1950 - using a modified C-119 transport plane; Mig Alley December 7th 1950 - using an F9F Panther; Sinuiju Airfield January 23rd 1951 - using an F-86 Sabrejet and Operation Strangle June 20th 1951 - again using the Sabrejet.

The graphical presentation of the game is excellent. The screen is split between two cockpit views, one for each player (computer or otherwise). A most impressive 3D view opens up from the cockpit of each plane, with a target and range of instruments on display. The simulation is definitely combat based, rather than flight, although a few basic flight concepts require learning. Instruments include power, altitude, rear view mirror, speed and ammunition. The instructions also give a brief outline of some basic flight manoeuvres. The aim of the game is to destroy as many enemy aircraft as possible before you lose three lives. You lose a life each time you are destroyed, although, having been hit, you may be lucky enough to eject or ditch the plane safely. Each enemy plane destroyed is worth 1200 to 2400 points, dependant on the amount of time taken to hit it, and upon the skill level selected.

I was very impressed with the graphics and smooth scrolling in this game, particularly as an enemy plane approached. Instead of the usual dot in the distance growing and growing into a plane shape, a real perspective is given to enemy aircraft. If the enemy pulls away from you, the perspective changes accordingly. I found the plane reasonably easy to control, although I did feel it was a bit sluggish (compared with Fighter Pilot for example). However, this is a simulations of a 1950's jet fighter, and I have no doubt that the handling of the plane reflects this point. What is very difficult at first is controlling the plane whilst in a combat situation. I found the best tactic was to try to get behind the enemy, and take him out whilst on his tail. I have only tried the first two scenarios, and I am quite sure that other tactics will be necessary to be completely successful.

The whole package is of a high standard of quality. The instructions are reasonably detailed and not only give you the basics of playing the game, but also background on the Korean War, background to each scenario, flight techniques, combat tactics and advanced fighter pilot techniques. It is obvious that the designers have given a good deal of thought to the im-

plementation of this simulation and this game is probably the closest any of us are likely to get to flying a jet fighter. One impressive feature is the constant change of brightness brought about by flying towards or away from the sun. Indeed, the glare experienced when flying directly towards the sun can be quite alarming.

All in all I found this to be an excellent game, well written and implemented, and a great addition to any collection be it as a flight simulator or combat simulator. Don't miss out on this classic.

AZTEC CHALLENGE

AZTEC CHALLENGE was a Top Ten Hit release of Maynard International Limited, Berkshire. The cassette inlay states that the game is for Atari 800XL's and 130XE's, however it is only a very short loader and will definitely run on a 65XE and probably other models.

Aztec Challenge is set at the ancient Mexican pyramid of Tenochtitlan, where the Aztec gods have demanded a human sacrifice(!) and guess who's in hot seat .... Your only hope of escape is to survive a series of tests in which your agility and stamina are pushed to the limit. The cassette inlay continues 'Over the centuries, your race has developed amazing abilities in running, jumping and leaping. This is your only chance of surviving the Aztec Challenge - a challenge on an epic scale!".

Once the game has booted, you are presented (briefly) with a title screen, and a short blast of the title music to The Good, the Bad, and the Ugly. Unfortunately, that is the extent of the musical accompaniment in this game. The game itself is basically a test of your coordination in jumping over and through a variety of objects. There do not appear to be any gems to collect, any nasties to shoot or any damsels to rescue. Still, if I were about to be sacrificed to a pyramid I don't think I would worry too much about gem collecting!

The graphics are not over impressive, with a small figure set in a running motion and a constantly scrolling screen sparsely decorated with cactus plants and obstacles such as walls. I tried to speed up and slow down the figure constantly during game play, and as there was no response, the game did not seem to run smoothly. I also found the jumps very difficult in places as they seemed to need pixel perfect reactions. I worked my way through The Grounds (level 1) and some of The Columns (level 2). The cassette inlay refers to Grounds and Columns, Fire Caves, The Batons, The Gems, The Walls and a note to say that 99 levels are featured in the game. This gives some variation on the jumping theme as you must jump over, under, through and onto various obstacles throughout the game.

In the end, my conclusion is that although this is not a great game, and is certainly not a sophisticated game, it is certainly a challenge to which I devoted more time than I care to admit. If it keeps you playing to beat that one extra round than it must be worth the £1.95 (or less) asking price. Once again, this one is Transdiskable: XT or XL/XE Menu - Non Standard Tape Read - default settings.

MILLIPEDE

MILLIPEDE is an arcade blockbuster straight from the pub machine, brought to the Classic by Atari Inc. It was released in 1984 on cartridge for all Atari computers with a minimum of 16k memory.

Millipede is a close relative of the other arcade giant, Centipede, and is very similar in game play. A number of extra features are incorporated in Millipede. These include different bugs to wipe out, DDT bombs to help wipe out large numbers of insects, swarming phases and the ability to set a starting score.

The instructions state that 'An army of menacing millipedes - cousins of the famed centipede - have invaded your garden patch, and you must shoot arrows at them to rid your plot of these pesky pests'. The millipede is not the only problem you have to deal with, as also present in the garden are jumping spiders, buzzing bees, bouncing beetles, mosquitoes, dragonflies, inchworms, and earwigs. Each insect has its own characteristics, and its own value when destroyed. Particularly bothersome are the earwigs which are difficult to hit, and poison every mushroom they come into contact with. Poisoned mushrooms are bad news as the millipede will go absolutely crazy when it comes into contact with one, and charge directly at you!

The game is played with either a joystick, or a trak-ball. I only have a joystick, so I wasn't able to try the game with a trak-ball. I am sure that the game is really playable with a trak-ball, which allows more flexibility in movement. Having said that, it is also very playable with a joystick. One feature which did puzzle me was the selection of starting points. I really can't imagine why anybody would want to start a game with 30,000 points. Perhaps it is for those people who are just to desperate to beat that elusive high score.

With many new games I am amazed at the intricate graphics and numerous functions programmers manage to produce with our classic 8-bit. However, no matter how well implemented some of these new games are, they never seem to challenge the simple playability of the oldies. Millipede is an old, simple game that is just addictive and fun to play. This game, and many of the other cartridge based arcade games will be around long after the last Sega is laid to rest.

REVIEWED THIS ISSUE

MIG ALLEY ACE	AZTEC CHALLENGE	MILLIPEDE
Publisher: Microprose	Publisher: Maynard	Publisher: Atari
Price: £6.95	Price: £1.95	Price: £5.95
Disk only	Cassette only	ROM only

All these titles are currently available from the PAGE 6 ACCESSORY SHOP and some may be available from other advertisers

reviewed by Mark Stinson

EASY PROGRAM VIEWER

If you want to check some routines in the middle of a programming session try this handy viewer by David Sargeant which allows you to scan through any Atari Basic program

When I write programs on my Atari Classic, I often want to refer to previous listings to remind myself of how I have handled a particular programming problem in the past. The sort of utility I need would be executed from BASIC, it would read a listing from a disk file into a text buffer and would allow me to browse through it at will. A Word Processor, of course, would let me do this, but I would prefer not to use such a dedicated piece of software. Nor do I need any editing facilities that a Word Processor would provide, so one would be unsuitable. A BASIC program purposely written to meet my requirements would be more useful and this is the premise of my program.

PROGRAM DEVELOPMENT

The input procedure is a loop consisting of 3 modules, which are mainly in machine code for speed. The loop is exited when the last line of the input file has been read or the text buffer is full due to insufficient memory being reserved. The size of the text buffer is determined by the variable BSIZE which is a calculation of the maximum number of pages allowed times the size of the video RAM. The current setting is for a maximum of 20 pages which gives a text buffer of 19200 bytes and is enough for a listing of approximately 160 program lines. The 3 modules are:

READ: A program line is read from the listings file into the line buffer and the line length is returned to BASIC. A line counter is then calculated to make sure that there is enough space in the text buffer to add this line. If there is the input loop is continued, but if there is not the loop is exited and a message is printed to inform the user that the listing is truncated. The line length is decreased by 1 to exclude the Carriage Return end of line marker in subsequent modules.

CONVERT: Data is stored in the listings file as ASCII bytes, yet for this program to make sense of the data each byte has to be converted to it's relevant Atari Internal Character Code. This module converts all the data in the line buffer.

COPY: This module copies all the data from the line buffer to the text buffer. It also updates the buffer offset address and the line counter which are used later in the file viewing section. The machine code routine is taken from Page 6, Issue 37.

The output procedure uses the same machine code routine as in the Copy module above. After the index into the text buffer has been calculated a pre-defined number of bytes are moved to the video RAM.

USER GUIDE

After a short initialisation delay the user is prompted for the name of the listings file. Enter the name or press the RETURN key to end the program. If a name has been typed the program attempts to open the disk file. An error message is printed if it is unsuccessful and the user is prompted to start again.

The listing is then read into the text buffer and the first page is printed. The next or previous page can be accessed by pressing the respective up/down arrow cursor key. The viewing can be terminated by pressing the ESCAPE key where the user is prompted again to enter a file name or to press the RETURN key.

Although this program is meant to be used with program listings files (BASIC programs saved with the LIST command), it can also handle any file using a Carriage Return (ASCII 155) to delimit each line.

Source code listings overleaf ☞

```
QK 1 REM ****************************
EH 2 REM *     EASY PROGRAM VIEWER     *
RZ 3 REM *      by David Sargeant      *
IY 4 REM * ------------------------- *
XC 5 REM * NEW ATAR USER - JUNE 1994 *
QP 6 REM ****************************
NM 7 REM
OG 17 GOTO 700
DT 100 REM GET FILE NAME
GK 110 OPEN #1,4,0,"K:":FILENAME$="
       ":POKE 764,255:I=1
NB 120 POSITION 2,2:? "┌──────────────
   ──────────────────┐"
DA 130 POSITION 2,3:? "│  ATARI BASIC PR
   OGRAM LISTER     │"
NV 140 POSITION 2,4:? "│
                    │"
FQ 150 POSITION 2,5:? "│ Enter file name
   D:>              │"
MO 160 POSITION 2,6:? "│ (RETURN to end)
                    │"
TO 170 POSITION 2,7:? "└──────────────
   ──────────────────┘"
DX 180 GET #1,KEY:IF KEY=155 THEN 220
ZU 190 IF KEY=126 AND I>1 THEN I=I-1:POSI
   TION COL+I,ROW:? " ":FILENAME$(I,I)="
   ":GOTO 180
MW 200 IF I>12 THEN 180
SP 210 POSITION COL+I,ROW:? CHR$(KEY):FIL
   ENAME$(I,I)=CHR$(KEY):I=I+1:GOTO 180
HL 220 REM Check file access
RB 230 CLOSE #1:IF I=1 THEN RETURN
YE 240 FILESPEC$(3)=FILENAME$:TRAP 600:OP
   EN #1,4,0,FILESPEC$:TRAP 40000:RETURN
GQ 300 REM LOAD LINES FROM FILE
XC 310 BUFFER$(1)=CHR$(0):BUFFER$(BSIZE)=
   CHR$(0):BUFFER$(2)=BUFFER$
YO 320 OFFSET=BUFFER:TOTLINES=0
LN 330 REM Read line
FB 340 SIZE=USR(ADR(MC1$),LNBUFFER,130):I
   F SIZE=0 THEN CLOSE #1:RETURN
UM 350 SIZE=SIZE-1:NUMLINES=INT(SIZE/VCOL
   ):IF SIZE>(NUMLINES*VCOL) THEN NUMLINE
   S=NUMLINES+1
XX 360 IF (TOTLINES+NUMLINES)>MAXLINES TH
   EN 630
LE 370 REM Convert and copy data
AX 380 X=USR(1536,LNBUFFER,SIZE)
EB 390 X=USR(ADR(MC2$),LNBUFFER,OFFSET,SI
   ZE)
RT 400 TOTLINES=TOTLINES+NUMLINES:OFFSET=
   OFFSET+(NUMLINES*VCOL):GOTO 340
AX 500 REM PRINT FROM BUFFER
EG 510 ? CHR$(125):OPEN #1,4,0,"K:":POKE
   764,255:INDEX=0
HY 520 LASTPAGE=INT(TOTLINES/VROW):IF (LA
   STPAGE*VROW)=TOTLINES THEN LASTPAGE=LA
   STPAGE-1
RZ 530 OFFSET=BUFFER+(INDEX*VRAM)
CD 540 X=USR(ADR(MC2$),OFFSET,SCREEN,VRAM
   )
RS 550 GET #1,KEY:IF KEY=27 THEN CLOSE #1
   :POKE 764,255:RETURN
RA 560 DIR=0:DIR=DIR+(KEY=61 AND INDEX<LA
   STPAGE)-(KEY=45 AND INDEX>0)
XX 570 IF DIR=0 THEN 550
CZ 580 INDEX=INDEX+DIR:GOTO 530
GT 600 REM ERROR TRAP
CK 610 POSITION 4,6:? CHR$(253);"Error ";
   PEEK(195);"      "
SR 620 FOR DELAY=1 TO 1000:NEXT DELAY:CLO
   SE #1:GOTO 100
RX 630 POSITION 4,6:? CHR$(253);"Buffer f
   ul - listing truncated"
RC 640 FOR DELAY=1 TO 1000:NEXT DELAY:CLO
   SE #1:RETURN
OQ 700 REM MAIN PROGRAM
DP 710 GOSUB 800:REM Initialisation
KX 720 GOSUB 100:IF I=1 THEN 750:REM Get
   file name
FO 730 GOSUB 300:REM Load and store
HU 740 GOSUB 500:GOTO 720:REM Print
KW 750 GRAPHICS 0:END
KS 800 REM INITIALISATION
NT 810 REM Screen
YU 820 GRAPHICS 0:SETCOLOR 1,0,2:SETCOLOR
    2,0,6:SETCOLOR 4,9,2
TU 830 POKE 559,0:POKE 16,64:POKE 53774,6
   4:POKE 752,1
BP 840 REM Variables
EK 850 VCOL=40:VROW=24:VRAM=VCOL*VROW
ZK 860 MAXPAGES=20:BSIZE=VRAM*MAXPAGES:MA
   XLINES=MAXPAGES*VROW
WV 870 DIM BUFFER$(BSIZE),LNBUFFER$(130),
   MC1$(38),MC2$(74),FILENAME$(12),FILESP
   EC$(14)
VL 880 LNBUFFER$(1)=CHR$(0):LNBUFFER$(130
   )=CHR$(0):LNBUFFER$(2)=LNBUFFER$
ZA 890 FILESPEC$="D:":LNBUFFER=ADR(LNBUFF
   ER$):BUFFER=ADR(BUFFER$)
GD 900 SCREEN=PEEK(88)+256*PEEK(89):COL=2
   2:ROW=5
VZ 910 REM M/c in strings
OT 920 FOR I=1 TO 38:READ A:MC1$(I,I)=CHR
   $(A):NEXT I
PT 930 FOR I=1 TO 74:READ A:MC2$(I,I)=CHR
   $(A):NEXT I
EF 940 REM M/c in page 6
HY 950 FOR I=0 TO 74:READ A:POKE 1536+I,A
   :NEXT I
XP 960 POKE 559,34:RETURN
CG 1000 REM M/C LINE INPUT DATA
LY 1010 DATA 104,162,16,169,5,157,66,3,10
   4,157,69,3,104,157,68,3
KB 1020 DATA 104,157,73,3,104,157,72,3,32
   ,86,228,189,72,3,133,212
RN 1030 DATA 189,73,3,133,213,96
KE 1040 REM M/C RAM MOVE DATA
YK 1050 DATA 104,104,133,204,104,133,203,
   104,133,206,104,133,205,104,170,104
DX 1060 DATA 168,136,192,255,208,1,202,13
   2,207,134,208,160,0,177,203,145
LQ 1070 DATA 205,198,207,165,207,201,255,
   208,9,198,208,165,208,201,255,208
AI 1080 DATA 1,96,230,203,165,203,201,0,2
   08,2,230,204,230,205,165,205
SW 1090 DATA 201,0,208,2,230,206,192,255,
   208,211
BA 1100 REM M/C CONVERT DATA
QB 1110 DATA 104,104,133,204,104,133,203,
   104,104,133,205,160,0,177,203,24
TY 1120 DATA 201,32,176,3,76,55,6,24,201,
   96,176,3,76,63,6,24
DX 1130 DATA 201,128,176,3,76,68,6,24,201
   ,160,176,3,76,55,6,24
SE 1140 DATA 201,224,176,16,76,63,6,24,10
   5,64,145,203,76,68,6,56
JK 1150 DATA 233,32,145,203,200,24,196,20
   5,144,195,96
```

EASY PROGRAM VIEWER

```
;=====================================;
;Convert ASCII to ICC    Call with :  ;
;X=USR(1536,ADDRESS,BYTES)            ;
;=====================================;
BUFFER = $CB              ;Buffer address.
SIZE   = $CD              ;Size of buffer.
         ORG $0600
START    PLA              ;No of values.
         PLA              ;Buffer address.
         STA BUFFER+1
         PLA
         STA BUFFER
         PLA              ;No to convert.
         PLA
         STA SIZE
         LDY #$00         ;Init counter.
CHECK    LDA (BUFFER),Y;Get byte.
CH1      CLC              ;<32 +64.
         CMP #$20
         BCS CH2
         JMP ADD
CH2      CLC              ;>=32 AND <=95
         CMP #$60         ;-32.
         BCS CH3
         JMP SUB
CH3      CLC              ;>=96 AND <=127
         CMP #$80         ;No change.
         BCS CH4
         JMP NEXT
CH4      CLC              ;>=128 AND <=159
         CMP #$A0         ;+64.
         BCS CH5
         JMP ADD
CH5      CLC              ;>=160 AND <=223
         CMP #$E0         ;-32.
         BCS NEXT         ;>=224 No change.
         JMP SUB
ADD      CLC              ;Add 64.
         ADC #$40
         STA (BUFFER),Y
         JMP NEXT
SUB      SEC                ;Subtract 32.
         SBC #$20
         STA (BUFFER),Y
NEXT     INY              ;Increment Y and
         CLC              ;check for end.
         CPY SIZE
         BCC CHECK
FINISH   RTS              ;Return to BASIC.
         END
;=====================================;
```

CONVERT.ASM
Assembler source code for converting data

```
;=====================================;
;Move memory            Call with :   ;
;X=USR(ADR(MC$),FROM,TO,NUMBER)       ;
;=====================================;
STORE1 = $CB              ;FROM address.
STORE2 = $CD              ;TO address.
STORE3 = $CF              ;NUMBER.
         ORG $0600
START    PLA              ;No of values.
         PLA              ;Store MSB and
         STA STORE1+1     ;LSB of start
         PLA              ;and finish
         STA STORE1       ;addresses.
         PLA
         STA STORE2+1
         PLA
         STA STORE2
         PLA              ;Load X and Y
         TAX              ;with number of
         PLA              ;bytes to move
         TAY              ;and store
         DEY              ;Decrease
         CPY #$FF         ;NUMBER by 1.
         BNE A1
         DEX
A1       STY STORE3
         STX STORE3+1
COPY     LDY #$0
LOOP1    LDA (STORE1),Y
         STA (STORE2),Y
         DEC STORE3       ;Decrease
         LDA STORE3       ;NUMBER and
         CMP #$FF         ;check that it
         BNE LOOP2        ;has reached 0.
         DEC STORE3+1
         LDA STORE3+1
         CMP #$FF
         BNE LOOP2
         RTS              ;Back to BASIC.
LOOP2    INC STORE1
         LDA STORE1
         CMP #$0
         BNE LOOP3
         INC STORE1+1
LOOP3    INC STORE2
         LDA STORE2
         CMP #$0
         BNE LOOP4
         INC STORE2+1
LOOP4    CPY #$FF
         BNE LOOP1
         END
;=====================================;
```

RAMMOVE.ASM
Assembler source code for moving RAM

```
;=====================================;
;Read a line of text  Call with :     ;
;X=USR(ADR(MC$),BUFFER,BYTES)         ;
;=====================================;
STORE   = $D4             ;Store.
IOCB    = $0340           ;IOCB.
ICCOM   = IOCB+2
ICBAL   = IOCB+4
ICBAH   = IOCB+5
ICBLL   = IOCB+8
ICBLH   = IOCB+9
CIOV    = $E456           ;CIO.
        ORG $0600
START   PLA               ;No of values.
        LDX #$10          ;Channel.
        LDA #$05          ;Get text
        STA ICCOM,X       ;Command.
        PLA               ;Buffer
        STA ICBAH,X       ;address.
        PLA
        STA ICBAL,X
        PLA               ;Maximum no of
        STA ICBLH,X       ;bytes to
        PLA               ;read.
        STA ICBLL,X
        JSR CIOV          ;Call CIO.
RETURN  LDA ICBLL,X       ;Return with
        STA STORE         ;actual no of
        LDA ICBLH,X       ;bytes read.
        STA STORE+1
        RTS
        END
;=====================================;
```

GETLINE.ASM Assembler source code for loading a file line by line

DESINAID

A 24 PIN CHARACTER DESIGN AID

Eddie Bennett has developed this fine program for use on his Epson LQ-500 printer but it should work on any other 24-pin printer that has true Epson compability

The program "DESINAID.BAS" allows you to design your own characters without the chore of squared paper, calculating data values and then typing in the data. You design your character on screen, with a joystick in port one, on a matrix 24 pixels high by between 1 and 37 pixels wide, giving a maximum of 888 pixels. It will print out the new character, print a copy of the design matrix or write the data statements into the program ready to be saved to disk in LIST format for future use.

On the first screen you select Atari Basic or Turbo Basic. The next screen asks if you want to load an old screen or go to the design screen. If you select the design screen you can select inverse or normal. If you select to load an old screen you can select inverse and/or mirror image. If you select one or both of these options you will not see the result until you press OPTION from the design screen. Now when you print, binary print or load old screen from the menu you will see the result.

SETTING UP

If you chose **DESIGN SCREEN** it asks for the attribute bytes, which are the first three data statements preceding the character data, the character to change and confirmation for disk file name which will have the extender "LQ". The file name is made up from the CHR$ number, a zero, the width, then LQ.(this will become the file name for all saves until you Rerun from the main menu). The zero can be changed if you redesign one character more than once so one does not overwrite the other on disk. You can't download the same character twice at one go obviously.

The right margin is set at 1 as it has no effect on any print out but is needed in the data for downloading.

The left margin is 38 minus the width of your character divided by 2. (this puts it centered). For the moment leave the margin values as they are. I will explain why later.

If you pressed "L" you will be asked for the CHR$ number and width of the character you wish to load. The file name will be displayed. Press RETURN to confirm or change the drive by pressing D and the number before confirming. The file will be loaded and the **SCREEN SETUP** screen will be displayed showing the attribute bytes and character loaded. Again press RETURN to confirm or change the values first. When you load an old screen to get a mirror copy don't forget to change the character to be SAVED on the "Screen Setup" screen.

CREATING A DESIGN

Now, at last you come to the **DESIGN SCREEN**.

With a joystick in port one you can now draw your design, or alter the existing design. To set a point hold the trigger down and move off it.

When complete, before pressing one of the control keys, leave the cursor on a point to be plotted otherwise you will have a stray dot. The marks at the sides of the box are the bottom line of a normal character, the top limit of a lower case character and the top limit of an upper case character. Lower case descenders use the area below the bottom marker. Numbers are one row taller than upper case letters.

Pressing SELECT gives you a printout of the screen and START a printout of the redesigned character. The screen remains displayed after START and SELECT. You can go between designing, START and SELECT as often as you need. Once satisfied with your design you can leave the design screen with OPTION.

On pressing OPTION the data statements will be written into the program at lines 3758 to 3794 and you will come to the main menu.

This is how the main menu looks:-

Dir HardCopy
Load current screen
Save data to disk
Rerun (Save data first)!
Print Character
Binary dump
Save for Merging.
Quit (G.MENU to get back here).
Your choice--?



The ***DIR*** and ***HardCopy*** options default to D1:. You can change the drive number by pressing D and then the drive number before confirming. The routine is from "Mapping the Atari". I once forgot that a disk directory is limited to 64 files so it also shows the number of files.

Load current screen:- displays the screen you have just left and with ATARI basic it can take over three minutes to be redrawn. With TURBO it takes no time.

Save Data to disk:- lists to disk the data lines 3750 to 3800 with the file name you chose at the first screen. Saving with this option allows you to reload it at a later date for modification etc and it can also be downloaded to the printer as is. For merging with other characters see "Save for merging".

Rerun:- Deletes lines 3758 to 3794, line 110, clears variables and returns you to the first screen. That is why I included the reminder.

Line 110 is deleted as the code "27,58,0,0,0" is only sent once in a download session. If it is sent a second time the ROM in the printer is moved down into RAM again and all new characters will be erased. Lines 3752 and 3753 have REMS to this effect also.

Print character:- gives the same test print as the START option. The difference is you can now alter the margin values. When you now save DATA the last margin values will be the ones saved.

THOSE MARGINS

Now why the margin values on the first screen?

The right margin has no effect whatsoever. Except, if you use the interface 72000 version 1.8E and you design a character with a width of 27 with a right margin of 0, or, you get 27,0 in your design then you will have problems because when the interface receives data 27,0 it doesn't pass it to the printer, instead it changes DIP sw 1 in the interface to "on" and thereafter some codes, (especially 16), are changed before being sent to the printer. This usually confuses the printer as there are two data values missing. If it does print out by some offchance it will be nothing like your design. I cured the problem by making the right margin 1. (I took two days to find the cause)!!

In CH38028.LQ I had a line of data 27,0,48. The problem was I didn't notice as it worked perfectly with the P.R. interface. I even merged it with 37 other characters. When I changed interfaces, I found the 27,0 by using the FINDER program from issue 37 which luckily I had. I changed the offending data to 26,0,48 which altered column 19 row 8 slightly but it was not noticeable in the print out, (binary dump is easier to see).

Both the 72000 and the ICD P.R change code 155 to 13.

The 72000 also takes from 20 to 30 seconds before it sends a printer error, so the printer error traps are not very efficient. With the P.R. it is immediate. There are no disk error traps so you might get a printer error which will be in fact a disk error. If you get a disk error before you design you will have to rerun.

If it's after then a G.MENU should work even after pressing RESET. The data will still be intact.

The left margin positions your new character between its neighbours according to its value. 0 will butt up to the character on the left and as you increase its value it will move to the right until it eventually butts up to the character on the right. If your character is 37 wide (the maximum) then you will have no left or right margins.

Binary dump:- duplicates the control key SELECT to print out the dot pattern as per the screen. It has to draw the screen again first and as explained earlier it can take a long time. It prints in draft mode to save wear and tear on the ribbon. (Line 2680 does that). You can change the background 0 if you wish by changing BNY$ in line 2740 to your CHR$ choice or simply "space" to give a fancy display.

Save for Merging:- will save the data to disk with sequential line numbers so that you can merge your new characters into one program for downloading. It is saved with the extender LST. At the end of each block of text the file name of the LQ file is displayed and it's number that you chose from the merge menu.

Quit:- resets the printer to its original settings and returns you to basic but leaves the DATA lines and variables intact. A GOTO MENU will get you back to the menu.

If you want to see what is going on during the blank screens you will have to change the POKE 709s from 1 to 14. Now you will see the INPUT MODE routines in action. Lines 1070 and 1880 are the main ones.

You can design your characters in draft mode, but the printer must be in draft when you load the program. The maximum width I've managed to print is 15. With this width the character will overwrite part of the character on its right. A width of 10 or 11 will just touch the character on the right.

To use the download facility of an Epson the DIP switch 2-5 must be off. 1K buffer instead of 8K buffer.

I wrote this program because I wanted to print symbols in the text in LQ 24 pin mode. I have Dot Magic, Daisy Dot II, The New Digital Editor and Fontmaster but I wanted also to use the download facility of the Epson LQ-500.

You will find some examples on this issue's disk in the Basic file TEST.BAS. LOAD and run it with printer on line and paper in. This gives an example of joining several new characters into one download program. List TEST.BAS and you will see the format. The listing for the first character is intact except for the line DATA -1. This line is transferred to the end of all data lines and the GOTO in line 3755 is altered to suit. Line 3754 is changed to show the first and last character to be redefined.

Example

```
CHR$(27);CHR$(38);CHR$(0);CHR$(1st);CHR$(Last)
```

All the character CHR$ codes must be consecutive.

Add as many redefined characters as you wish from the attribute bytes to the last Data line then the next attribute bytes and so on until you add the last line "DATA -1".

The redesigned characters in the LQ files were assigned to characters which were not consecutive. When I decided to merge all the characters I had redesigned I decided to assign

Example of possible characters

Б Г Д Ж з И Й Л П Ф Ц Ч Ш . , Щ Ъ Ы ˊ Э Ю Я в

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DESINAID
continued

them to characters CHR$ 33 to 70. It does not matter what the originals were assigned to. In the group 33 to 70 are the 'FULL STOP and the COMMA' which meant switching on and off the character set which was a pain so I redesigned the full stop and comma to be the same in RAM or ROM. I could have split the download into two. 33 to 43 and 47 to 73. As it was the punctuation marks were easy to redesign. The LQ files therefore do not all correspond to the TEST BAS files.

If you only download a couple of characters then Enter and run each one as a stand alone program keeping in mind the remarks in lines 3752 and 3753. The CHR$ numbers don't need to be consecutive in this case.

On the disk are some examples of characters I've redesigned. Enter CH54030.LQ into the program and you will see I've left a gap at column 23 row 12 (Binary dump). Complete this line to the vertical line, print it, and you should see that the vertical line is now deformed. Bear this in mind when you design certain characters.

USING THE CHARACTERS

Once downloaded you can load your word processor or use them from Basic. When I want to use LETTER WIZARD or MINI OFFICE II after downloading I do not switch off and reboot. I POKE 830,1 RETURN then RESET. For LETTER WIZARD hold OPTION down also.

To use the new set from Basic I use the code "Esc,t2" and then inverse the character which increases its ASCII number by 128.

Word Processors, (mine), don't like inverse characters so, for LETTER WIZARD I use the control codes "esc","%" and then CH1 in inverse to switch on and to switch off "esc %" and then, again in inverse, CH0.

MINI OFFICE II works with the print code strings 27,37,1 (on) and 27,37,0 (off).

The program will not Basic compile nor Turbo compile but it will run with Turbo and faster than with Basic. To make it compilable I would need to change the LIST and ENTER routines which would defeat my object. As it is, it is a simple matter to Enter a character for downloading from basic, or Load a merged group of characters without first having to load a special program. If I have one or two to download I leave them in LIST format. If I have merged a batch I save them in SAVE format as I have done with the file TEST.BAS on the disk. For my purposes TURBO basic is fast enough.

The Input mode routines were inspired by an article in the old ATARI USER of September 1985 by Roland WADDILOVE.

I have not been able to test the program on other systems, therefore any problems may be due to my setup - the printer or the interfaces.

Because of its length the DESINAID program is only available, ready to run, on the disk for this issue - check the DISK BONUS page for details on how to order

NOSAUG PD TAPES

Public Domain on cassette is as rare as an Atari advertisement on TV but Paul Rixon has found a source and checks to see if the tapes are any good

There hasn't been much joy for cassette users recently. Budget tapes used to be the 'in' medium for Atari games releases but nowadays, in the absence of mainstream software house support, new 8-bit products are almost exclusively disk related. Disk mags are a popular source of software and information, but how many tape mags have you heard of? Public domain disk libraries offer a great opportunity to buy cheap software, but how many stock PD cassettes? Does the 1010 have a future?

Well, NOSAUG think so. NOSAUG's organiser Stuart Murray, who is well known for producing the rather good Futura magazine (not to mention his NAU contributions), firmly believes in equal opportunities for cassette users. Not only does he offer relevant extracts from Futura on tape, but also maintains a unique cassette library of public domain software. Futura has featured in these pages on several occasions, so this time we'll focus on the PD collection. I've selected four cassettes for review here but there are many more available - twelve at the last count, not including issues of Futura. More are planned for the coming months and, of course, Stuart will gladly send you full details of the up-to-date collection (just send him an SAE).

FUN AND GAMES

I can't remember the last time I used my 1010 - it seems like years, and probably is. However, I encountered no problems sampling the contents of the first PD cassette - **GAMES 1**. This tape (a good quality C60) contains seven games, all of which load in the absence of Atari Basic. Printed documentation is supplied.

Air Hockey is a very playable simulation of (you guessed it) ice hockey for one or, preferably, two players with joysticks. It's a bit like the old favourite Pong in that each player operates a bat and tries to guide a ball (or puck) through the opponent's goal mouth. The start-up menu allows you to alter parameters such as friction, bounce and velocity. The next game - ***Death Zone*** - was originally listed in the now defunct Monitor magazine and is an excellent Encounter clone. As you peer into the colourful 3-D landscape, your scanner detects an alien. As it screams into view you wisely back off, firing salvos of energy bolts. You have survived this time, but how many more attacks can you withstand in the Deathzone?

On a less violent theme, ***Cuttlemania*** is a cheerful puzzle for two players. The joysticks manoeuvre two characters - one red, one blue - who jump around a four-by-four grid. Wherever the characters land, the square is converted to the corresponding colour. Each time four similarly coloured squares are connected in a row, the appropriate player gains a notch on the progress bar. It's simple, but good fun and very well implemented. In ***Amphibian*** you have to climb a tree and knock down fruit onto the nasty dinosaurs below. There's some nice sound here, but the game itself won't hold your attention for long. Fortunately the next one - ***Two Maze*** - is a real treat. It's a version of PacMan so needless to say you have to eat the dots and avoid the baddies. There are three levels of difficulty and single or dual player modes.

The Empire Strikes Back is a PD conversion of the Parker Brothers VCS game. Your job is to defend the rebel base from approaching imperial walkers, by flying your x-wing fighter over these strange monsters and firing at a small target on their backs. It's quite a challenge on the higher levels. The final game, ***Rocks***, is a cross between Frogger and Lunar Lander. You must dodge an asteroid belt, then overcome the atmospheric forces to sit your space craft on a small landing pad - gently does it! If successful, you obtain a container to take back through the asteroids and fire into the cargo bay of an orbiting mothership. I liked the shading of the background scenery, though otherwise this game is rather dull.

SERIOUS STUFF

That's enough fun and games - onto the serious stuff! **UTILITIES 1** contains no fewer than ten programs, three machine code and the remainder Basic. Page 6 Writer requires no introduction to long-standing NAU readers, since it appeared as a type-in listing back in issue 50. ***Page 6 Writer*** is a word processor incorporating the usual editing, search/replace, format, printing and DOS facilities. Unlike many it can be used to save and retrieve documents on

cassette as well as disk. Another treat is Jeff Minter's ***Colourspace***, originally a commercial release but placed in the public domain during 1992. Described as a light synthesiser, the program is much easier to use than explain. You basically press some buttons, waggle the joystick and watch the screen come alive with amazing patterns. For best results, turn down the lights and crank up the CD player. There are loads of adjustable parameters, preset patterns, special effects and other goodies. Printed instructions summarise the numerous commands, the rest is down to experimentation.

For those with artistic ability, ***BBK Artist*** is a drawing package with all the expected functions - draw, box, fill, circle, rays and many more. It's compatible with Koala, Micropaint and Magniprint picture formats but unfortunately you can't save pictures onto tape. This drawback aside, BBK Artist is a very competent package. ***Grass Calculator*** has nothing to do with deciding when it's time to mow the lawn. It was created for the 'Grand Rapids Atari System Supporters' Basic programming class, and is basically a desktop calculator. As well as all the standard arithmetic operators, it can handle hexadecimal to decimal (or vice versa) conversions, roots, square roots and percentages. Meanwhile ***Sun Plotter*** will tell you the time difference, sunrise, sunset, longitude and latitude figures for any selected area of the world based on date and GMT information entered at the start. Once a world map is displayed, you simply point with the joystick to discover the relevant info.

The remainder of Utilities 1 is filled with less complex Basic programs. ***Etcher Sketcher*** is another drawing package which lets you design pictures constructed from '3-D box' sections in a chosen colour. ***Metrics*** is a two-way conversion program for those people who get confused with centimetres, kilometres, grams, Celsius and their imperial equivalents (isn't it two grams to the inch?). In ***Door Prize***, the computer selects winning numbers between pre-defined limits. The results are presented in an attractive manner, which might be useful if you want to run a raffle. ***Gas Miles*** prints or displays a table showing the cost of various journeys, based on the input cost of fuel and average consumption of your vehicle. Finally, ***Typing Evaluator*** provides a means to improve touch typing skills. It presents randomly generated words which you must copy while the computer keeps track of your speed and accuracy.

DEMOS!

There are only six programs on the **AMAZING DEMOS** cassette, but rest assured you will not be disappointed with the content. The ***Fujiboink*** Demo is probably the best known of all Atari demos. It features a spinning and bouncing Atari (Fuji) symbol, plain on one side and 'rainbow' shaded on the other, all presented on a chequered background. You can press Option to change the direction of the symbol's spin. An innovation in its time, The Fujiboink Demo seems a little outclassed by more recent developments.

Vortex, for example, is a brilliant demonstration of page flipping and colour register rotation techniques. It depicts a constant spiral - a vortex, in fact! ***The Little Demo***, from the Dutch High Tech Team, was produced after their highly acclaimed BIG demo and consists of two components. The first is a scroller, with messages to read and musical accompaniment from the Ninja Commando theme. The second is ... another scroller, complete with a digitised photo of the High Tech Team, more messages and more music. "***What?***" is the name of a demo by the World Federation of Mad Hackers. It illustrates the power of 3-D vector graphics by displaying various objects - the Atari logo, a floppy disk, a tie-fighter, a clock face etc. - spinning through space. ***BallSong II***, from the Atari Sunnyvale Research Laboratory is an older demo of a ball and associated shadow, bouncing as if on a squash court. The music is rather forgettable! Last but not least, The ***Home Entertainment Demo*** was created by the Home Entertainment Centre, who justly pronounced at the time that Atari home computers had the best graphics and sound capabilities available. Customers hearing the amazing soundtrack and viewing the incredible kaleidoscope graphics would surely not have disagreed.

SOUNDS GOOD

As you might expect, **MUSICAL MADNESS** is a collection of sonic goodies. Several items were composed for computer games using the Advanced Music Processor - ***Robotman***, ***Cosmic Tunnels*** (one of my personal music favourites), ***Air Strike***, ***Monster Smash*** (another favourite) and ***Alternate Reality***. Most songs are accompanied by a sound-to-lightbar display, but Robotman and Monster Smash have sing-along words instead! The next three tunes - ***Telemann Duet in G Major***, ***One Way Taxicab Hill*** and ***Funiculi Funicula*** - were all created using a disk-based shareware package called Music 16. ***Fire Cracker*** and ***The Synthesong*** are Basic programs (so you can examine the listings) but you wouldn't guess from the excellent musical output. The final offering, ***The Hayes Brothers Sound Demo 2***, is a demonstration of the Enhanced Music Box and comprises a selection of ten different tunes. They're not bad at all! Anyway, it's almost impossible to describe the contents of the Musical Madness tape. All you can do is listen!

HURRAH!

Despite my reluctance to retrieve the program recorder from long-term storage, I was impressed by the high standard of NOSAUG's PD cassettes. Many items have never been available in this format before, whilst others are ex-commercial releases which were difficult to find in any guise. They are all of excellent quality. Tape users can now rejoice!

PRODUCTS REVIEWED:

NOSAUG PD CASSETTES

C01 - Games 1
C03 - Utilities 1
C04 - Amazing Demos
C06 - Musical Madness

The price per cassette starts at £2.95 but reduces to £2.50 if you buy four and £1.95 if you order more than seven. Orders and enquiries should be addressed to Stuart Murray, NOSAUG, 71 Walker Road, Torry, Aberdeen, Scotland. AB1 3DL.

THUNDER ISLAND

A super maze game by Craig Patchett originally published by Analog magazine

One of the interesting features of the Atari home computer is the priority register. This reserved memory location works together with the Atari Player-Missile Graphics system to allow screen objects to pass behind or in front of other objects, an effect that can give the illusion of depth.

The priority register is called, appropriately, PRIOR and is found at memory location 623 ($26F hex). The accompanying chart shows the effect of POKEing various values into it. Note that a high priority object will appear to move in front of an object with lower priority.

A GAME USING THE PRIORITY REGISTER

Thunder Island use the priority register to control which section of the maze immediately surrounding you can be seen at a given time. If you draw a maze in playfield one and set the colour of playfield one to that of the background, under normal circumstances we won't be able to see the maze. But, by setting PRIOR to 2, we can have players two and three appear between the background and playfield one, thereby making the section of the maze 'in front' of either player visible. That's all there is to it!

PLAYING THE GAME

Thunder Island is located in the middle of the Pacific about a thousand miles north of New Zealand. An internationally renowned playboy resort, its main attraction is a huge transparent maze. This maze can be set up to any one of an almost infinite number of floor plans, so that it is impossible to memorise the layout.

Because it is transparent, the maze is normally easy to solve. The island, however, is subject to frequent thunderstorms, and the power generator that lights the maze is often knocked out. As a precaution to this, those entering the maze carry lanterns, allowing them to see that part of the maze immediately surrounding them. It is the challenge of navigating the darkened maze, however, that has drawn you to Thunder Island. A different maze will be generated each time you play. Good luck!

THIRTY OPTIONS!

Use the chart to pick the type of game you want to play. A one player game is good for practising but you'll find that the two player games are more fun. You can choose to play a daylight game, in which the whole maze is always visible, or a night time one, in which only part of it is visible. You can also choose from three maze difficulty levels, and each player can choose from three lantern sizes (allowing better players to take a handicap). The OPTION key chooses a one or two player game and SELECT chooses the level. Once you have selected the game you want, press START and the computer will begin generating the maze. Once it's finished, your lantern(s) will light up and the game will start.

Using your joystick, you must manoeuvre your player to the corner of the maze diagonally opposite to the one you started at, and exit the maze. There is a timer at the bottom of the screen that keeps track of how long you've been in the maze, so you can compete for the fastest time. As soon as someone escapes, the storm will end and the maze will start reflecting a rainbow. Press START to run the program again.

PRIOR SET TO

8	4	2	1
PF0	PF0	P0	P0
PF1	PF1	P1	P1
P0	PF2	PF0	P2
P1	PF3 or PF4	PF1	P3
P2	P0	PF2	PF0
P3	P1	PF3 or PF4	PF1
PF2	P2	P2	PF2
PF3 or PF4	P3	P3	PF3 or PF4
BAK	BAK	BAK	BAK

Pn refers to player n
PFn refers to playfield n (as in SETCOLOR n)
PF3 or PF4 refers to the fact that all missiles can be given the colour of playfield 3 and used as an extra player (player 4). This is done by adding 16 to the value being POKEd into PRIOR

When two players overlap, you can also choose to have a third colour in the overlap region. This is done by adding 32 (decimal) to the value being POKEd into PRIOR.

```
WO 1 REM *****************************
SN 2 REM *       THUNDER ISLAND      *
GO 3 REM *      by Craig Patchett    *
SQ 4 REM * ------------------------- *
AL 5 REM *    ORIGINALLY PUBLISHED   *
NC 6 REM *     BY ANALOG MAGAZINE    *
WU 7 REM *****************************
NN 8 REM
IZ 100 CLR :GOTO 150
CD 110 SOUND C0,C0,C0,C0:RETURN
FN 120 FOR I=C1 TO 50:NEXT I:RETURN
KG 130 D1=ASC(M$(Z,Z))-48:D2=ASC(M$(Z+C1,
   Z+C1))-48
RJ 140 BYTE=HEX(D2)+C16*HEX(D1):Q2=Q2+C1:
   POKE C709,PEEK(53770):RETURN
HU 150 READ C0,C1,C2,C3,C4,C5,C6,C7,C8,C9
   ,C10,C11,C12,C13,C14,C16,C128,C560,C56
   1,C709,C710,C711,C712
DH 160 DIM DLI$(C13),R$(C16),M$(442),HEX(
   22):GRAPHICS 18:POSITION C4,C5:? #C6;"
   initializing"
XQ 170 FOR I=C1 TO C13:READ BYTE:DLI$(I)=
   CHR$(BYTE):NEXT I
NU 180 FOR I=C1 TO C16:READ BYTE:R$(I)=CH
   R$(BYTE):NEXT I:FOR I=C0 TO 22:READ BY
   TE:HEX(I)=BYTE:NEXT I
NO 190 Q2=-C1:FOR I=C1 TO C3:READ M$:FOR
   Z=C1 TO LEN(M$)-C1 STEP C2:GOSUB 130:P
   OKE 1571+Q2,BYTE:NEXT Z:NEXT I
IE 200 Q2=-C1:FOR I=C1 TO 21:READ M$:FOR
   Z=C1 TO LEN(M$)-C1 STEP C2:GOSUB 130:P
   OKE 29696+Q2,BYTE:NEXT Z:NEXT I
MR 210 FOR X=29689 TO 29695:POKE X,C0:NEX
   T X:FOR I=1536 TO 1570:POKE I,C0:NEXT
   I
IQ 220 GRAPHICS C16:POKE C16,112:POKE 537
   74,112
MO 230 POKE C710,C0:ST=PEEK(C560)+256*PEE
   K(C561)+C4:POKE ST+C2,C7:POKE ST+C4,C6
   :POKE ST+24,65
OK 240 POKE ST+25,PEEK(C560):POKE ST+26,P
   EEK(C561)
WW 250 POKE C708,C0:POKE C709,C0:POKE C71
   1,C0
FY 260 POKE ST+20,130:POKE 513,INT(ADR(DL
   I$)/256):POKE 512,ADR(DLI$)-(PEEK(513)
   *256):POKE 54286,192
AK 270 POKE 752,C1:POSITION C3,C1:? "THUN
   DER  ISLAND"
TN 280 POSITION 22,C2:? "by craig patchet
   t"
CY 290 POSITION C3,20:? "Copyright (C)198
   3 ANALOG Computing"
CI 300 FOR X=C1 TO C3:POKE C712,C14:POKE
   C710,C14:FOR Y=C0 TO 50:SOUND C0,Y,C8,
   C8
IE 310 IF Y=25 THEN POKE C710,C0:POKE C71
   2,C0
PJ 320 NEXT Y:NEXT X:FOR Y=51 TO 255:SOUN
   D C0,Y,C8,C8:NEXT Y:POKE C712,50:POKE
   C710,50:POKE C709,C8
GS 330 POKE 708,218:POKE C711,122:GOSUB 1
   10
YL 340 POSITION C10,C9:? "
          ":POSITION C10,C10:? " ONE PLAYER
   /GAME      "
FE 350 POSITION C10,11:? "
          "
EZ 360 SKILL=C1:LEVELP=C1
XC 370 POSITION 27,C10:? SKILL;" ";:FOR X
   =C1 TO 100:NEXT X
UR 380 IF PEEK(53279)<>C3 THEN 440
SG 390 LEVELP=LEVELP+C1:LEVELP=LEVELP-C2*
   (LEVELP=C3):POSITION C11,C10:IF LEVELP
   =C1 THEN ? "ONE";
ZU 400 SOUND C0,C10,C8,C8:GOSUB 110
IE 410 IF LEVELP=C2 THEN ? "TWO";
PI 420 IF LEVELP=C1 AND SKILL>C12 THEN SK
   ILL=C1:GOTO 370
GW 430 GOSUB 120:GOSUB 120
BW 440 IF PEEK(53279)<>C5 THEN 490
BB 450 SKILL=SKILL+C1:IF LEVELP=C1 THEN S
   KILL=SKILL-C12*(SKILL=13)
ST 460 IF LEVELP=C2 THEN SKILL=SKILL-30*(
   SKILL=31)
CJ 470 SOUND C0,20,C8,C8:GOSUB 110
PS 480 GOTO 370
AV 490 IF PEEK(53279)<>C6 THEN 380
DU 500 IF LEVELP=C2 THEN 540
FC 510 LEVELD=(SKILL<C10):LEVELM=SKILL-C3
   *INT((SKILL-C1)/C3):LEVELWA=C2-INT((SK
   ILL-C1)/C3)
XA 520 IF  NOT LEVELD THEN LEVELWA=C0
NZ 530 GOTO 610
MM 540 LEVELD=(SKILL<28):LEVELM=SKILL-C3*
   INT((SKILL-C1)/C3):T=INT((SKILL-C1)/C3
   )
MF 550 IF T=C0 OR T=C3 OR T=C4 THEN LEVEL
   WA=C2
OP 560 IF T=C1 OR T=C5 OR T=C6 THEN LEVEL
   WA=C1
QZ 570 IF T=C2 OR T=C7 OR T=C8 THEN LEVEL
   WA=C0
SO 580 IF T=C0 OR T=C5 OR T=C7 THEN LEVEL
   WB=C2
QZ 590 IF T=C1 OR T=C3 OR T=C8 THEN LEVEL
   WB=C1
NT 600 IF T=C2 OR T=C4 OR T=C6 THEN LEVEL
   WB=C0
IO 610 GRAPHICS 21:POKE C16,112:POKE 5377
   4,112
XV 620 LEVELM=80*(LEVELM=C2)+255*(LEVELM=
   C3):WIDTHA=LEVELWA*C4:WIDTHB=LEVELWB*C
   4:IF WIDTHA=C8 THEN WIDTHA=C12
UY 630 IF WIDTHB=C8 THEN WIDTHB=C12
ZT 640 POKE C712,50:POKE C710,50:COLOR C3
   :POKE C709,C14
GQ 650 FOR X=C0 TO 78 STEP C3:PLOT X,C0:D
   RAWTO X,45:NEXT X:FOR Y=C0 TO 45 STEP
   C3:PLOT C1,Y:DRAWTO 77,Y:NEXT Y
GN 660 SOUND C0,C11,C8,C8:FOR X=C1 TO C3:
   NEXT X:GOSUB 110:POKE C710,218:FOR X=C
   1 TO 500:NEXT X
YD 670 M$(C1,C1)="0":M$(442,442)="0":M$(C
```

continued

GAME OPTIONS

ONE PLAYER MODE

NIGHT TIME GAMES

LANTERN	EASY	MEDIUM	HARD
Large	1	2	3
Medium	4	5	6
Small	7	8	9

DAY TIME GAMES

EASY	MEDIUM	HARD
10	11	12

TWO PLAYER MODE

NIGHT TIME GAMES

PLAYER 1 LANTERN	PLAYER 2 LANTERN	EASY	MEDIUM	HARD
Large	Large	1	2	3
Large	Medium	10	11	12
Large	Small	13	14	15
Medium	Large	19	20	21
Medium	Medium	4	5	6
Medium	Small	16	17	18
Small	Large	22	23	24
Small	Medium	25	26	27
Small	Small	7	8	9

DAY TIME GAMES

EASY	MEDIUM	HARD
28	29	30

THUNDER ISLAND

```
   2)=M$:A=INT(RND(C0)*390)+27:M$(A,A)="1
   "
QD 680 POKE 1536,LEVELM:POKE 1537,133:POK
   E 1538,C1:SOUND C0,24,C4,C6:X=USR(3012
   7,ADR(M$))
PJ 690 A=42*INT(RND(C0)*C2):COLOR C0:PLOT
    C0,C1+A:PLOT 78,44-A:PLOT C0,C2+A:PLO
   T 78,43-A:GOSUB 110
EU 700 M=112:POKE 1552,C1:POKE 1554,C1+A+
   (A>C0):POKE 1556,WIDTHA
KP 710 POKE 1553,77:IF LEVELP=C2 THEN POK
   E 1555,44-A-(A>C0):POKE 1557,WIDTHB
UL 720 FOR L=C0 TO C3:POKE 53248+L,C0:NEX
   T L:POKE 54279,M:POKE 559,46:POKE 623,
   34:POKE 53277,C3:PMB=M*256
QF 730 POKE 53258,WIDTHA/C4:POKE 53259,WI
   DTHB/C4
BG 740 T=PMB+512:FOR L=T TO T+511:POKE L,
   C0:NEXT L:L=A*C2+C2*(A>C0):POKE T+L+18
   ,24:POKE T+L+19,24
WS 750 L=84-A*C2+C2*(A=C0):POKE T+L+146,2
   4:POKE T+L+147,24
ZS 760 L=PMB+A*C2+C2*(A>C0)+768+15-C4*LEV
   ELWA:FOR X=L TO L+C7+C8*LEVELWA:POKE X
   ,255:NEXT X
BL 770 L=PMB+84-A*C2+C2*(A=C0)+896+15-C4*
   LEVELWB:FOR X=L TO L+C7+C8*LEVELWB:POK
   E X,255:NEXT X
FO 780 POKE 53248,47
GJ 790 SOUND C0,C11,C8,C8:FOR X=C1 TO C3:
   NEXT X:GOSUB 110:POKE 704,C14:GOSUB 12
   0:POKE 53250,47-WIDTHA
GW 800 FOR X=C16 TO C0 STEP -C1:SOUND C0,
   X,C8,C8:POKE 706,C16-X:FOR Y=C1 TO C10
   :NEXT Y:NEXT X:GOSUB 110:POKE 706,72
PL 810 IF LEVELP<>C2 THEN 850
FK 820 GOSUB 120:GOSUB 120:POKE 53249,199
   :SOUND C0,C11,C8,C8:FOR X=C1 TO C3:NEX
   T X:GOSUB 110:POKE 705,C14:GOSUB 120
TK 830 POKE 53251,199-WIDTHB
AS 840 FOR X=C16 TO C0 STEP -C1:SOUND C0,
   X,C8,C8:POKE 707,C16-X:FOR Y=C1 TO C10
   :NEXT Y:NEXT X:GOSUB 110:POKE 707,24
ZL 850 FOR X=C1 TO 200:NEXT X:POKE C712,C
   14:FLASH=C0
DS 860 IF LEVELD THEN POKE C710,144
PK 870 ST=PEEK(C560)+256*PEEK(C561)+C4:PO
   KE ST+47,C2:POKE ST+48,65:POKE ST+49,P
   EEK(C560):POKE ST+50,PEEK(C561)
BP 880 X=USR(1571):SOUND C3,C10,C8,C2
PT 890 X=USR(29696)
GZ 900 IF FLASH<255 THEN 930
WM 910 IF INT(RND(C0)*200)<>100 THEN 950
CJ 920 POKE C712,C14:FLASH=C0:SOUND C2,C0
   ,C8,15
NQ 930 FLASH=FLASH+C5:SOUND C2,FLASH,C8,C
   8:IF FLASH=255 THEN SOUND C2,C0,C0,C0:
   REM
LM 940 IF FLASH=25 THEN SETCOLOR C4,C9-C6
   *(LEVELD=C0),C2*(LEVELD=C0)
DN 950 IF PEEK(1560) OR PEEK(1561) THEN 9
   90
TU 960 IF PEEK(1558) THEN SOUND C0,20,C8,
   C8
XA 970 IF PEEK(1559) THEN SOUND C0,40,C8,
   C8
YS 980 FOR X=C1 TO C5:NEXT X:GOSUB 110:GO
   TO 890
AE 990 X=USR(1703):SOUND C2,C0,C0,C0
FA 1000 IF PEEK(1560) THEN POKE 53249,C0:
   POKE 53251,C0
CQ 1010 IF PEEK(1561) THEN POKE 53248,C0:
   POKE 53250,C0
AF 1020 X=USR(ADR(R$)):FOR X=53248 TO 532
   51:POKE X,C0:NEXT X:GOTO 210
OS 1030 REM * CONSTANTS
BT 1040 DATA 0,1,2,3,4,5,6,7,8,9,10,11,12
   ,13,14,16,128,560,561,709,710,711,712
EG 1050 REM * DLI ROUTINE
IJ 1060 DATA 72,169,14,141,10,212,141,23,
   208,169,88,104,64
GM 1070 REM * RAINBOW ROUTINE
OP 1080 DATA 104,169,6,232,142,10,212,142
   ,24,208,205,31,208,208,242,96
JG 1090 REM * HEX DATA
WC 1100 DATA 0,1,2,3,4,5,6,7,8,9,0,0,0,0,
   0,0,0,10,11,12,13,14,15
QY 1110 REM * TIMER ROUTINE
KE 1120 DATA 6818A9A9655885CDA903655985CE
   A93C8D2202A9068D230260A514C906B0034C5F
   E4A9008514EE1F06AD1F06C90AD032A900
YZ 1130 DATA 8D1F06EE2006AD2006C90AD023A9
   008D2006EE2106AD2106C906D014A9008D2106
   EE2206AD2206C90AD005A9008D2206A000
NO 1140 DATA A204C001F004C004D008A91A91CD
   C81890F0BD1E06491091CDC8CAD0E54C5FE468
   AD60E48D2202AD61E48D230260
EZ 1150 REM * P/M-STICK ROUTINE
XD 1160 DATA 68A2008D1E06AE1E06A9009D1606
   9D1806BD10068D1A06BD12068D1B06BD78024A
   9003EE1B064A489003CE1B06205B74AD1E
VO 1170 DATA 06AABD10068D1A06BD12068D1B06
   684A9003EE1A064A9003CE1A06205B74EE1E06
   AD1E06C902D0AC60A55885CBA55985CCAD
SE 1180 DATA 1A064A4A184865CB85CBA90065CC
   85CC680A0A8D0E06A903186D0E0638ED1A068D
   0E06A9008D1D06AD1B06A2040A2E1D06E0
OC 1190 DATA 03D00B8D1C06AD1D0648AD1C0648
   CAD0EA8D1C0668186D1C068D1C06686D1D068D
   1D0618A5CB6D1C0685CBA5CC6D1D0685CC
OA 1200 DATA A000B1CBAE0E064A4AA000B002A0
   FFC8CAE0FFD0F2C001D00160A90138ED1E06A8
   AD1E06AAB91206CD1B06D009B91006CD1A
IT 1210 DATA 06D00160AD1E06A8208775AD1A06
   DD1006F011FE16060A18692D9D00D038FD1406
   9D02D0AD1B06DD1206F052FE16069027A2
UG 1220 DATA 7DC001D00FBD80729D8272BD8073
   9D827318900CBD00729D0272BD00739D0273CA
   D0DE189026A202C001D00FBD80729D7E72
ZS 1230 DATA BD80739D7E7318900CBD00729DFE
   71BD00739DFE72E8E07FD0DC98AAAD1B069D12
   06AD1A069D100660AD1A06E000D010C900
VF 1240 DATA D004EE1A0660C94ED014FE180660
   C94ED004CE1A0660C900D004FE180660606868
   8D0806688D0706AD0AD2290FC90FF0F78D
SH 1250 DATA 0306AD0AD2291FC91A10F78D0406
   200577B1CDC931D0DFA9008D0906AD0406C901
   9005A0192062770E0906AD0406C919B005
PD 1260 DATA A01B2062770E0906AD0306C90190
   05A0002062770E0906AD0306C90EB005A03420
   6277AD0906C900F09AAD04060A186D0406
CN 1270 DATA 8D0A06AD03060A186D03068D0B06
   A514F0FCA9008514A9148D00D2AD0AD229038D
   0F06C900D019AD09062908F019CE0406EE
MM 1280 DATA 0B06206C77EE0B06206C774CCE76
   AD0F06C901D022AD09062904F022EE0406EE0A
   06EE0A06EE0A06EE0B06206C77EE0B0620
YZ 1290 DATA 6C774CCE76AD0F06C902D019AD09
   062902F012CE0306EE0A06206C77EE0A06206C
   774CCE76AD09062901F097EE0306EE0B06
AY 1300 DATA EE0B06EE0B06EE0A06206C77EE0A
   06206C77A9188D00D2200577A93191CD38AD01
   06E9018D0106AD0206E9008D0206C900D0
NQ 1310 DATA 08AD0106C900D00160AD0AD2CD00
   0690034CD9754CB875AD03068D050648AD0406
   A2008E0606A2040E05062E0606E002D008
YY 1320 DATA AD060648AD050648CAD0EB18686D
   05068D0506686D06068D0606680A186D04066D
   05068D0506AD060669008D060618AD0706
BT 1330 DATA 6D050685CDAD08066D060685CEA0
   1A60B1CDC930D003EE090660A55885CBA55985
   CCAD0A064A4A184865CB85CBA90065CC85
DT 1340 DATA CC680A0A8D0E0638AD0A06ED0E06
   AAE8A93FCAF006386A6A4C96778D0E06A9008D
   0C06AD0B06A2040A2E0C06E003D00B8D0D
LG 1350 DATA 06AD0C0648AD0D0648CAD0EA8D6D
   0668186D0D068D0D06686D0C068D0C0618A5CB
   6D0D0685CBA5CC6D0C0685CCA000B1CB2D
LP 1360 DATA 0E0691CB60
```

●



Welcome to ... Peter Kerrison's column!

Well, Peter provided all of the tips this time (we did have many others but no room to fit them in), so we might as well give him some credit!

BREAKDOWN ☞

I'm back after a little bit of rest, thanks to a little help from a friend of mine last issue. I have an absolute bumper bag of tips for this issue, many of which may have to be held over for another time. It just goes to show how much interest there is still out there and the willingness of you the users to come up with the goods, time and time again.
Well we've got Brundles tips, maps and solutions for Breakdown and much more besides which probably won't fit in, but read on anyway!

THE BRUNDLES

First of all we have Peter Kerrison's guide to **THE BRUNDLES** by KE_SOFT. He has provided the codes for levels 1 to 60. He says also that there is a bug in the game that means that it crashes if you repeat the same level several times. On level 60 Peter says it crashes if you build to the top of the screen and then explode a Brundle.

Level	Code	Level	Code	Level	Code	Level	Code
1	howdy	16	hotel	31	singl	46	jingl
2	kemal	17	hawai	32	hello	47	uboot
3	laser	18	cyber	33	tools	48	dream
4	peace	19	dance	34	heavy	49	quick
5	amiga	20	logic	35	tears	50	fifty
6	power	21	solar	36	world	51	texas
7	irata	22	ghost	37	super	52	elite
8	serum	23	plasm	38	color	53	audax
9	bingo	24	steel	39	magic	54	cable
10	sorry	25	torso	40	tomsk	55	relag
11	enter	26	crazy	41	delay	56	sting
12	miner	27	walky	42	cheob	57	oohno
13	bubbl	28	check	43	synth	58	house
14	clock	29	shift	44	faith	59	china
15	money	30	eagle	45	philo	60	vitro
61	halle						

Level 61 is obviously not finished. There is no possibility of completing it and no home to aim for.

BREAKDOWN, issue 67's free adventure game gets the map and solution treatment also courtesy of Peter. It didn't take long for him to complete it. As you probably don't want to know how to complete it straight away the solution is in reverse, so that **KICK PIG = KCIK GIP**.

TEG IAR - TEG ROT - RAEW IAR - S - HCUOT ETAG - (ECAPS RAB) - S - TUB SSERP - (ECAPS RAB) - S - THGIL ROT - (ECAPS RAB) - E - (ECAPS RAB) - DAER NGIS - (ECAPS RAB) - E - TEG KOOB - DAER KOOB - (ECAPS RAB) - TEG ETON - DAER ETON - (ECAPS RAB) - PORD ETON - PORD KOOB - W - W - TEG DRAC - TEG IWS - E - PORD IWS - S - W - TEG NAB - E - E - TEG TOB - S - LLIF TOB - W - S - TRESNI DRAC - (ECAPS RAB) - E - E - E - S - TEG LLEC - N - E - S - TEG MOORB - N - N - TEG DER - S - PORD MOORB - W - W - W - S - E - TEG ERIW - W - W - DEEF ROG - TEG IHW - E - N - W - N - N - N - PORD ERIW - S - S - S - S - KCOLNU ROOD - S - N - N - N - N - KCOLNU ROOD - W - TEG ART - E - N - TEG URF - S - S - E - EVOM AOC - (ECAPS RAB) - S - TEG INU - N - W - S - S - E - E - E - E - E - DEEF TAOG - (ECAPS RAB) - N - N - N - W - HSAW LIS - (ECAPS RAB) - TEG LIS - PORD TOB - E - S - S - S - W - N - EVOM TEEHS - (ECAPS RAB) - TEG GIL - S - W - N - TEG MLIF - VED MLIF - TEG GEN - DAER GEN - PORD GEN - S - W - TEG EPS - W - W - TEG XOB - E - S - S - N - N - N - N - PORD XOB - PORD ART - PORD INU - PORD GIL - S - S - S - E - E - E - N - (ECAPS RAB) - DAER SEM - (ECAPS RAB) - RAEW EPS - DAER SEM - (ECAPS RAB) - (ECAPS RAB) - RETNE XZV - (ECAPS RAB) - PORD EPS - W - TEG DOM - E - E - PMUJ S - (ECAPS RAB) - S - W - W - W - S - S - TEG DRAOB - LNU ROOD - E - TEG TAB - W - N - N - W - N - N - N - EKAM ECIVED - (ECAPS RAB) - TEG ECIVED - NEPO ROOD - (ECAPS RAB) - N - N - N

When the torch goes out (variable) type the commands: **REP CEL - LIGHT TORCH**

The device must be made in the foyer by the front floor as follows:

LASER DOOR OPENING DEVICE PARTS LIST

1. Switch
2. Control Unit
3. Laser Power Module
4. Circuit Board (EK0007A)
5. Wire
6. Piezo-Electric Transducer
7. Dick Pinks Jiffy Box (Size 2)
8. 3V Indicator Light

CODE:

Replace top letter with bottom letter i.e. A = Z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A

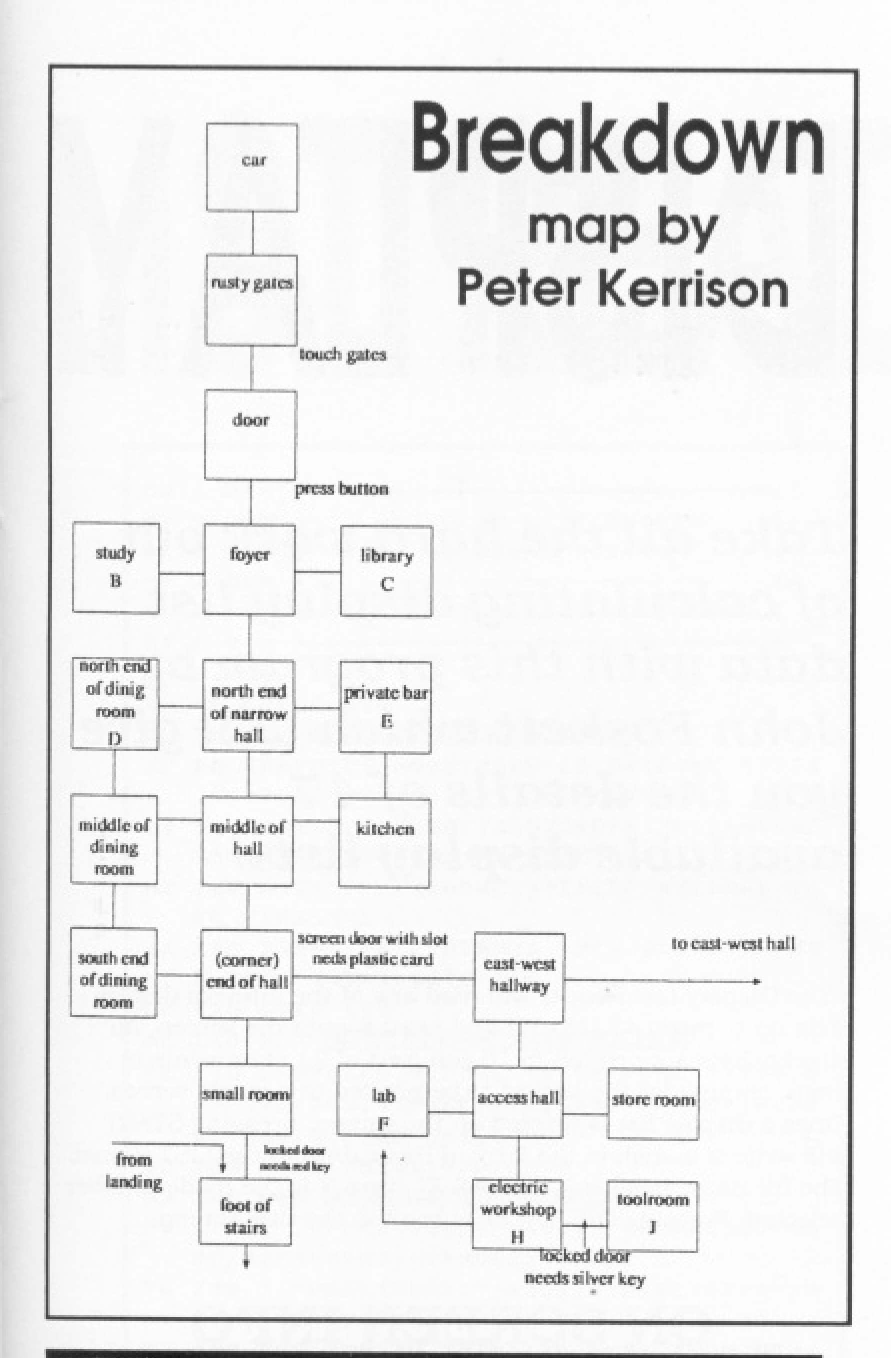
MESSAGE :

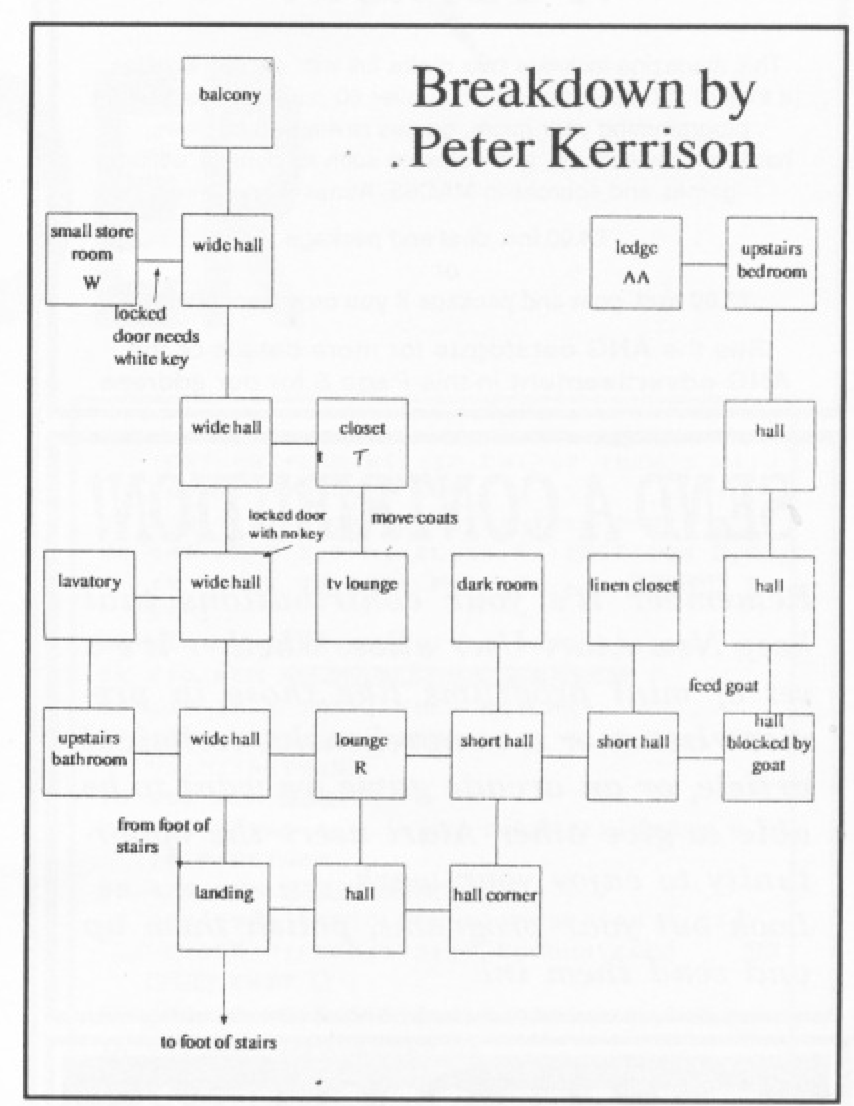
To get the input code, read the message with the UV spectacles

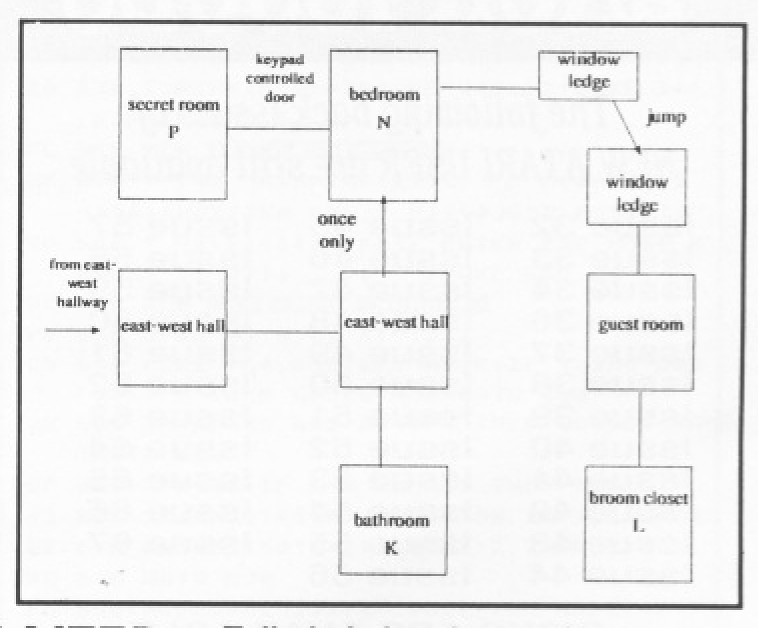
List of available items and where they can be found. The letter is indicated on the map.

ITEM	CODE	LOCATION	LETTER
Plastic raincoat	RAI	car	A
Torch	TOR	car	A
Plastic card with holes	CAR	study	B
Loose light switch	SWI	study	B
Book "Science of locks"	BOO	library	C
Note	NOT	library	C
Banana	BAN	north end of dining room	D
Empty whiskey bottle	BOT	private bar	E
White Key	WHI	laboratory	F
Coil of wire	WIR	store room	G
Circuit board	BOA	electric workshop	H
12v car battery	BAT	tool room	J
1.5v torch cells	CEL	bathroom	K
Long handled broom	BRO	broom cupboard	L
Red key	RED	guest room window ledge	M
Message	MES	bedroom	N
Laser power module	MOD	secret room	P
UV spectacles	SPE	lounge	R
Dick Pins jiffy box	BOX	upstairs bedroom	S
Coats	COA	closet	T
Control unit	UNI	TV lounge	V
Piezo-Electric transducer	TRA	small store room	W
Fruit	FRU	balcony	X
Undeveloped film	FIL	dark room	Y
Sheets	SHE	linen closet	Z
3v indicating light	LIG	linen closet	Z
Silver key	SIL	upstairs bedroom ledge	AA

There are one or two other objects around but they are of no importance







HELP ... HELP ... HELP ... HELP ... HELP ...

It's that time again when you can come to the aid of poor forlorn gamers that are stuck at a particularly sticky point of their particular game.

Steve Nicklin, although supplying some tips for **WORM IN PARADISE**, needs help with the same game. He has returned the socialists wallet but cannot understand the coloured tile system. Also what meaning or purpose is the curfew for? He also needs help on **RETURN TO EDEN**. The island always kills him when he goes down the hole.

Mrs C.S. Reynolds of Walton in Liverpool needs help on the ST adventure **DITCH DAY**. She has managed to find all the items except one and can't work out what to do with the rocket. She will read this column forever more if someone can come up the solution. As a matter of interest I am also interested in hints and tips for the ST due to fact that I have a Falcon.

Paul Robinson notes that way back in the heady days of 1987 Atari User, as was, reviewed **UNIVERSAL HERO** and Paul has recently come across the game and has found the same bug the reviewer did. I can tell you now Paul, that the game was ported across from the Commodore 64 and was flawed. None of the thousands of copies actually worked and as far as I know there is no way to fix it apart from with a disk editor's intervention. Paul also wanted help in **ROCKFORD**. Try pressing RESET and the time will freeze. Any better?

Mrs Morris (sorry I couldn't read your first name!) asks for help on **THE COUNT** and **ARROW OF DEATH**. She can't find the tomb in The Count and she can't find a light in the Arrow of Death. She has the oil lamp but can't go into the archway because its to dark.

WANTED:

Tall, dark, handsome tips to grace pages with awesome Tipster. Apply below.

Yes we need your tips, maps and hints, below is the faithful old address to send them all to and I'll print them up as soon as I get them. Send them, as always, to:

THE TIPSTER
NEW ATARI USER
PAGE 6 PUBLISHING
P.O. BOX 54
STAFFORD, ST16 1DR

SEND A CONTRIBUTION!

Remember it's your contributions that keep New Atari User alive. Whether it's a set of mini programs like those in previous issues or a comprehensive technical article, or an arcade game we want to be able to give other Atari users the opportunity to enjoy your work.
Look out your programs, polish them up and send them in!

DISPLAY

Take all the hard work out of calculating display list data with this program by John Foskett which will give you the details of 47 available display lists!

The Display List Reader will read any of the internal display lists up to mode 47 (15+32) and print it onto the screen. All display lists are printed in 10 columns of 21 statements in each, enough for the largest to be printed to a single screen. Once a display list is printed on the screen, pressing START will write it to disk in the form of Basic data in the LIST format. The file name used is "DISPLAY.X", were X is the mode number selected. Pressing OPTION exits back to the title screen.

ON SCREEN INFO

Important data is given at the top of the screen as follows....

PEEK(560)	Starting address - low byte
PEEK(561)	Starting address - high byte
PEEK(87)	"DINDEX" current mode
ADDRESS	Starting address
MODE	Selected mode
TOTAL	Total number of statements

HOW THE PROGRAM WORKS

The program works by selecting the chosen mode and loading the display list data into an array, reselecting mode zero and printing the data on the screen.

The display lists are located by PEEK(560)+256*PEEK(561) in the normal way and ends two address bytes after detecting the number "65". The number "65" is always found in a display list three bytes from the end.

A lined screen is used for clarity which is generated by a custom display list loaded into page 6.

LIST READER

```
GX 1 REM ┌──────────────────────────────┐
CT 2 REM |     DISPLAY LIST READER      |
NX 3 REM |       by John Foskett        |
FT 4 REM |     --------------------     |
OG 5 REM | NEW ATARI USER - JUNE 1994   |
GT 6 REM └──────────────────────────────┘
NM 7 REM
QH 60 GOSUB 510
OW 70 REM  Read Display List 
XF 80 GRAPHICS MODE:POKE 16,64:POKE 53774
   ,64:POKE 559,0:I=0:J=0:FINISH=0
XY 90 ADD1=PEEK(560):ADD2=PEEK(561):ADDRE
   SS=ADD1+256*ADD2:MD=PEEK(87)
HI 100 A(I)=PEEK(ADDRESS+I):IF A(I)=65 TH
   EN FINISH=1
HK 110 I=I+1:IF FINISH=1 THEN J=J+1:IF J=
   3 THEN TOT=I:GOTO 140
LK 120 GOTO 100
AZ 130 REM  Initialise DL Screen 
BE 140 GRAPHICS 0:POKE 16,64:POKE 53774,6
   4:POKE 559,0:POKE 712,146:POKE 82,0:PO
   KE 560,0:POKE 561,6
JO 150 POKE 752,1:V=0:HP=0
HX 160 REM  Print Display List 
PJ 170 ? "↰PEEK(560)=";ADD1;"▸ADDRESS=";A
   DD1+256*ADD2;"▸←MODE=";MODE
YG 180 ? "PEEK(561)=";ADD2;"▸PEEK(87)=";M
   D;"▸←TOTAL=";TOT:POKE 559,34
KZ 190 FOR I=0 TO TOT-1:IF I=21 THEN HP=4
   :V=0
RZ 200 IF I=42 THEN HP=8:V=0
NQ 210 IF I=63 THEN HP=12:V=0
SH 220 IF I=84 THEN HP=16:V=0
RZ 230 IF I=105 THEN HP=20:V=0
WX 240 IF I=126 THEN HP=24:V=0
BV 250 IF I=147 THEN HP=28:V=0
YT 260 IF I=168 THEN HP=32:V=0
DR 270 IF I=189 THEN HP=36:V=0
TP 280 POSITION HP,2+V:? A(I);:V=V+1:NEXT
    I
IN 290 REM  End of Data 
EP 300 POKE 82,2:POSITION 2,23:? "START S
   AVE TO DISK       OPTION EXIT";
BJ 310 IF PEEK(53279)=3 THEN RUN
HQ 320 IF PEEK(53279)=6 THEN 350
MT 330 GOTO 310
PE 340 REM  Save to Disk 
HM 350 CNT=0:LNUM=10:F$(11)=STR$(MODE):I$
   =STR$(MODE):FOR I=1 TO LEN(I$):I$(I,I)
   =CHR$(ASC(I$(I,I))+128):NEXT I
GG 360 POSITION 2,23:? "WRITING MODE ";MO
   DE;" DISPLAY LIST TO DISK ";
GD 370 OPEN #1,8,0,F$:? #1;LNUM;" . DISPL
   AY LIST FOR MODE ";I$;"█";:GOSUB 430
FN 380 FOR I=0 TO TOT-1:J=A(I):N$=STR$(J)
   :CNT=CNT+LEN(N$):IF CNT>67 THEN ? #1;J
   :GOSUB 430:GOTO 400
SY 390 ? #1;J;:IF I<TOT-1 THEN ? #1;",";
HQ 400 NEXT I:? #1:CLOSE #1:POSITION 2,23
   :? "FILE IN LIST FORMAT       OPTION EX
   IT";
WD 410 ON PEEK(53279)<>3 GOTO 410:RUN
QK 420 REM  Start New Data Line 
XA 430 IF I=TOT-1 THEN RETURN
TV 440 CNT=0:LNUM=LNUM+10:? #1:? #1;LNUM;
   "D.";:RETURN
TO 450 REM  Beep 
KZ 460 SOUND 0,8,10,15:J=SIN(1):SOUND 0,0
   ,0,0:RETURN
BG 470 REM  Error Trap 
JZ 480 TRAP 480:CLOSE #1:POSITION 2,23:?
   "ERROR ";PEEK(195);" ENCOUNTERED     OP
   TION EXIT R";
FR 490 ON PEEK(53279)<>3 GOTO 490:RUN
SX 500 REM  Initialise 
YA 510 GRAPHICS 0:POKE 16,64:POKE 53774,6
   4:POKE 559,0:POKE 712,146:POKE 710,146
   :POKE 752,1:POKE 731,1:TRAP 480
WL 520 CLOSE #1:DIM A(202),F$(12),I$(2),N
   $(3):F$="D:DISPLAY.":RESTORE :FOR I=0
   TO 53:READ J:POKE I+1536,J:NEXT I
ZA 530 I=PEEK(560)+256*PEEK(561):POKE I+6
   ,6:POKE I+7,6
FL 540 REM  Title Screen 
MX 550 ? "↰↓  display list▸     reader":?
   "▸▸↓↓↓WRITTEN BY":? "▸▸←↓JOHN FOSKETT"
YQ 560 ? "▸←↓↓↓↓↓↓↓PLEASE ENTER THE MODE N
   UMBER":? "▸▸↓    >↓--":POKE 559,34
GZ 570 REM  Get Mode Number 
PP 580 OPEN #1,4,0,"K:":I=1
CS 590 POKE 764,255:GET #1,K:IF K=155 AND
    I$<>"" THEN GOSUB 460:GOTO 650
JR 600 IF K=126 AND I$<>"" THEN GOSUB 460
   :GOTO 680
OF 610 K=K-48:IF K<0 OR K>9 THEN 590
AI 620 I$(I)=STR$(K):POSITION 18+I,16:? K
UZ 630 GOSUB 460:I=I+1:IF I>2 THEN I=2
RC 640 GOTO 590
FL 650 MODE=VAL(I$):I=LOG(1):IF MODE>47 T
   HEN 680
HO 660 CLOSE #1:RETURN
DM 670 REM  Clear Entry 
CS 680 I=1:I$="":POSITION 19,16:? "  ":GO
   TO 590
SE 690 REM  Custom Display List Data 
TK 700 DATA 112,32,66,64,156,0,2,32,2,0,2
   ,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0
   ,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0
SL 710 DATA 2,32,2,65,0,6
```

FOR THE CHILDREN

Due to other work commitments our pilot was unable to fly us into the Classic PD Zone last time. All tickets remain valid for the next journey. Until then, we will supervise the flight-training of young Air Atari8 cadets.

The Pudoso have hyper-faxed us three educational offerings to improve the skills of our new recruits. These offerings come recommended by the Intergalactic Schools Federation! Education is the key to life beyond the Classic PD Zone...

LEARN WITH MAX

I LOVE MY ALPHABET features a cute character by the name of Max. Max wiggles, blinks, dances, runs, grows, skates and kicks his way all over the screen whilst at the same time helping a child to learn the alphabet and improve identification skills.

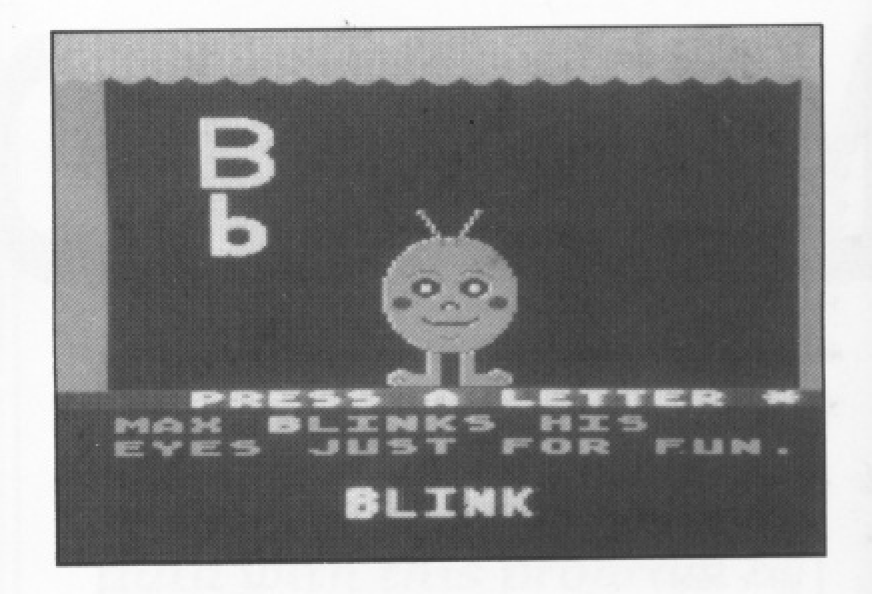
After a long loading time you are greeted by the main screen. It is set up like a stage with large green curtains. Max walks onto the stage and begins to dance to some bouncy music (Twinkle Twinkle Little Star). He is a funny-looking orange ball with legs, eyes, a mouth, antennae and rosy red cheeks. He is wonderfully animated and moves smoothly across the stage twitching his antennae, kicking his legs, blinking, smiling, etc. Max is a happy character which will keep children glued to the TV screen!

When the music ends and Max stops dancing he asks you to play one of four games with him. These are Watch the Letters, Press a Letter, Find the Letter and Letter Quiz. Use Select to choose your game and press Start to begin.

Select Watch the Letters and the area below the stage transforms into a qwerty keyboard. A letter flashes and Max performs a task. With great detail and wonderful animation he does all manner of things. For example, beginning with the letter A, you are shown the word "Antennae" with the "A" highlighted. You are told, "Max wiggles his antennae most of the time" and our orange friend proceeds to do exactly that. It is very cute!

Next up is "B" and you are told, "Max Blinks his eyes just for fun". Some of my favourite letters are I for Ice (Max skates on ice), D for Dance (Max dances to some funky music), P for Peek (Max peeks at you from behind the curtains) and S for Sick (Max turns green!). You just have to see Max in action to appreciate how good a program this is!

The second game is Press a Letter. Here Max asks you to press a letter on the keyboard. If you wait too long Max speaks to you... "If anyone is out there please press a key... Press anything, Max is getting bored... OK, let's play another game ..." and he moves onto the next game. This sums up the joy of I Love My Alphabet!



Getting back to Press a Letter, you are asked to press a key. Do so and Max will perform the task which begins with that letter, e.g. press G and he grows! When Max is ready for another letter a star appears at the side of the stage.

The next game is Find the Letter. Max walks to the right of the stage and reaches behind the curtain for a letter. It then appears on the stage in upper case. Your job is to look at the letter and then press the corresponding key on the keyboard. This game will help children identify letters.

If you enter the correct letter it will appear at the top left in upper and lower case. Max then nods and gives his performance, e.g. a correct F and Max will run Fast across the stage.

Enter the wrong letter and it will appear at the top left so a comparison can be made with the requested letter on the right. Max will also tell you that you are wrong by shaking his head and asking you to try again. Three wrong guesses and he will show you where the letter is on the keyboard by bringing the qwerty keyboard back on stage and flashing the letter.

Letter Quiz is the final and most difficult game of the four. You must watch Max give his performance and then push the correct key to match what he did, e.g. if Max hops about the stage you would enter H for Hop. Get it right and Max will nod his head. You have three guesses with Max helping you along the way.

The sound effects during each game are very impressive. There are footsteps as Max walks, chimes as he twitches his antennae, squeaks as he talks, etc. The supporting music is bouncy and full of life!

I Love My Alphabet is a wonderful piece of software! It is without doubt one of the best educational titles (PD or commercial) for the Atari 8-bit, if not THE best! It can only be rivalled by the commercial Sticky Bear series.

The animation is smooth and classy. The four games are superbly designed to offer a varying challenge to young children. The graphics are colourful and well drawn. Best of all, there is Max! This adorable little character is a joy to watch and will grab the attention of any child!

If you have children who are learning their alphabet or if you just want to experience a truly great piece of programming then you must see I Love My Alphabet! Forget all of those commercial educational disks and cartridges of the past... Max is here and he is top of the class!

CLASSIC PD ZONE RATING: 95%

ONCE UPON A TIME...

If your children enjoy a good story then perhaps you should take a look at **STORYTELLER**, an interesting program which tells you one of ten classic bed-time stories on-screen. You can read it to or with your child by changing the speed at which you wish to read (fast, medium or slow).

After booting the disk, select HELP from the menu and you will find yourself at the Storyteller menu. Here you are shown the ten stories featured on the disk and asked to select a story by pressing the corresponding number (0-9). After doing so you move onto a black screen with blue background. The title of the selected story is given in white Graphics 0 text and the tale begins to scroll sentence by sentence on the screen.

Storyteller is basically a text viewer program with children's stories on-disk. The stories include Little Red Riding Hood, The Three Billy Goats Gruff, The Bremen Musician, The Three Little Pigs, The Spider and the Fly, The Little Red Hen and The Gingerbread Man. "Run, run, as fast as you can. You can't catch me, I'm the gingerbread man.", brought back some pleasant childhood memories for me!

Obviously, Storyteller is not the same as a full-colour pop-up book but it is an interesting alternative. You can also input your own stories by using the main Storyteller subroutine and altering the DATA statements in the program. By entering DATA % you signal a new line. DATA 999 signals the end of the story. It is easy to create new story files for use with the main Storyteller program.

Storyteller is a concept which will hopefully be built upon. By adding larger text, pictures, animated sequences and an interactive component to allow the child to 'participate' in the story (e.g. make Yes or No decisions, spell objects, answer simple arithmetical sums, etc.) it could become a top quality program.

As it is, Storyteller is a first step towards an XL/XE Magic Story Book.

CLASSIC PD ZONE RATING: 55%

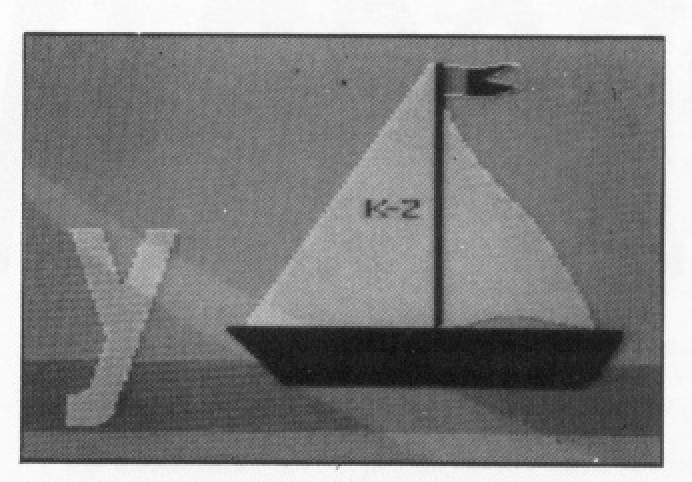
AS EASY AS ABC

MY SECOND ALPHABET is a disk which is similar to the Find the Letter game in I Love My Alphabet.

There are 26 picture files on the disk, each showing a lower case letter and an object which begins with that letter. After examining the letter and object you must press the corresponding upper-case letter on your computer keyboard. Only when the correct key is pressed will you hear a random set of musical notes (which often sound like the sequence from Close Encounters).

With My Second Alphabet your child can improve identification skills whilst learning the alphabet and the difference between lower and upper case letters.

The main picture loader is very fast and you move from



picture to picture at a quick rate. The pictures are very well drawn with great care having gone into producing quality artwork. My favourites were "t" for train (Thomas the Tank Engine), "d" for dinosaur, "c" for cat and "v" for vacuum cleaner. Colour is used to great effect in all 26 pictures.

My Second Alphabet is almost a very good educational program, however there is one major flaw - each successive picture file is chosen at random from all 26 files! In other words, the same picture often appears two or three times within a short period of time! This is a silly oversight by the author which makes the program less interesting to children. After enjoying the first few pictures, my young cousin Lewis got quite annoyed when the "b" for bat appeared three times out of five. He ended up asking for Max again!

The program should be altered to allow random selection of picture files but only from those which have not already been shown. After all 26 files have been shown the program can begin again. This way, I think children would really enjoy My Second Alphabet. If anyone decides to alter the program why not write to Page 6 Mailbag so the necessary changes can be published for all to use.

My Second Alphabet is a good educational title which unfortunately is let down by a single programming oversight!

CLASSIC PD ZONE RATING: 45%

SEE-YA!

As part of Air Atari8 cadet training, all recruits must undertake a new voyage deep into the Classic PD Zone. What they will find there is anyone's guess! Until next time... Remain always on the happiness patrol and keep feeding your 8-bit on green jelly babies!

This issue's reviews have been:

DISK #232 - I LOVE MY ALPHABET

DISK #102 - STORYTELLER

DISK #182 - MY SECOND ALPHABET

with Stuart Murray as your guide

PROGRAM PRINTER

by David Sargeant

If you have an Epson-compatible printer, such as the Citizen 120D+, it soon becomes clear that it cannot cope with printing an Atari BASIC program listing. Normal text is printed alright but the Atari's graphics characters are interpreted by the printer as control codes and inverse text is printed as normal text in italics. This is not a fault of the printer, of course, it is because the computer and the printer use different character sets. So the question is how can the printer be made to use the computer's character set when printing a listing?

Delving into the printer's manual reveals its Dot Graphic capabilities. A graphic character can be printed from a pattern of dots stored in the printer's memory. It would seem possible to use the 8 bytes that represent an Atari character as Dot Graphic codes to enable the printer to print the desired character. However, this reveals two problems:

1. The bitmap of an Atari character is designed in such a way that each byte represents a row of that character. Yet, since the print head of the printer-prints dots in columns and not in rows, each Dot Graphic byte should represent a column. Using bytes from the computer's character set causes characters to be printed on their side. So the 8 bytes that the printer requires for each character are not the same as the ones stored in the computer's memory.

BITMAP FOR LETTER 'A'								Atari
0	0	0	0	0	0	0	0	0
0	0	0	1	1	0	0	0	24
0	0	1	1	1	1	0	0	60
0	1	1	0	0	1	1	0	102
0	1	1	0	0	1	1	0	102
0	1	1	1	1	1	1	0	126
0	1	1	0	0	1	1	0	102
0	0	0	0	0	0	0	0	0
0	30	62	100	100	62	30	0	Printer

2. The program that actually prints the Atari BASIC listing needs to use the ASC function to provide an index into the character set. This means that the characters should be in ASCII sequence. Unfortunately, the Atari has what is called an Internal Character Set which is not in the same order as the ASCII one.

	Atari ASCII	Internal
Character code	0 - 31	64 - 95
	32 - 63	0 - 31
	64 - 95	32 - 63
	96 - 127	96 - 127

The answer to these problems is to have not one program to print a listing but two. The first to calculate a new character set in ASCII order based on the Atari's internal one and to store it on file, the second to do the actual printing using this file.

CHARACTER SET MODIFIER

This program modifies the Atari's Internal Character Set as outlined above. It is very slow but, as it need be executed only once to create the new Dot Graphic character code file, speed is not important.

When you run the program all 256 characters are re-calculated and stored in an output buffer. You are then prompted to insert your disk after which the codes are output to a file.

VARIABLES USED IN PROGRAM

FILESPEC$	File to hold character codes - set to D:DGCODES.FNT
MC$	Machine code to save character codes to file
DGBAS$	Buffer for Dot Graphics character codes
DGBAS	Starting address of Dot Graphics buffer
CHBAS	Starting address of ROM based character set
MIN,MAX	Range of ASCII character codes to modify
DGMIN	Value of corresponding character in the Internal Character Set
OFFSET1	Offset into the computer's internal character base
OFFSET2	Offset into the Dot Graphics character base
CHARACTER	Loop counter through the entire 256 characters
BYTE	Loop counter through the 8 bytes of each character
NUM	Holds the current byte being processed
BIT	Value of Dot Graphic bit
I,A,X	General variables

```
WO 1 REM ********************************
WD 2 REM *    CHARACTER SET MODIFIER    *
YZ 3 REM *       by David Sargeant      *
SQ 4 REM * ---------------------------- *
IQ 5 REM * NEW ATARI USER - JUNE 1994 *
WT 6 REM ********************************
NM 7 REM
IZ 50 GOTO 4000
ET 1000 REM INITIALISE
FA 1010 DIM FILESPEC$(13),MC$(28),DGBAS$(
   2048):FILESPEC$="D:DGCODES.FNT"
EG 1020 CHBAS=PEEK(756)*256:DGBAS=ADR(DGB
   AS$):POKE 752,1
TJ 1030 ? CHR$(125):? " ***  CHARACTER S
   ET MODIFIER *** ":? :?
ZK 1040 ? "Modifies the Atari character s
   et"
YV 1050 ? "to the Citizen 120D+'s Dot Gra
   phics"
HQ 1060 ? "character codes.":? :? :? "Ini
   tailising..."
YY 1070 FOR I=1 TO 28:READ A:MC$(I,I)=CHR
   $(A):NEXT I
SH 1080 FOR I=DGBAS TO DGBAS+1023:POKE I,
   0:NEXT I
PN 1090 ? CHR$(28);:RETURN
FC 2000 REM MODIFY CHARACTER SET
SD 2010 ? "Modifying character :"
RP 2020 MIN=0:MAX=31:DGMIN=32:OFFSET1=CHB
   AS+MIN*8:OFFSET2=DGBAS+DGMIN*8:GOSUB 2
   200
OX 2030 MIN=32:MAX=63:DGMIN=64:OFFSET1=CH
   BAS+MIN*8:OFFSET2=DGBAS+DGMIN*8:GOSUB
   2200
HT 2040 MIN=64:MAX=95:DGMIN=0:OFFSET1=CHB
   AS+MIN*8:OFFSET2=DGBAS+DGMIN*8:GOSUB 2
   200
KA 2050 MIN=96:MAX=127:DGMIN=96:OFFSET1=C
   HBAS+MIN*8:OFFSET2=DGBAS+DGMIN*8:GOSUB
    2200
PM 2060 MIN=0:MAX=127:DGMIN=128:OFFSET1=D
   GBAS+MIN*8:OFFSET2=DGBAS+DGMIN*8:GOSUB
    2400:RETURN
MS 2200 REM Characters 0-127
ZW 2210 FOR CHARACTER=MIN TO MAX
DD 2220 POSITION 24,9:? CHARACTER
WU 2230 FOR BYTE=0 TO 7
ZV 2240 NUM=PEEK(OFFSET1+BYTE):BIT=2^(7-B
   YTE)
CP 2250 IF NUM>=128 THEN POKE OFFSET2,PEE
   K(OFFSET2)+BIT:NUM=NUM-128
XY 2260 IF NUM>=64 THEN POKE OFFSET2+1,PE
   EK(OFFSET2+1)+BIT:NUM=NUM-64
LZ 2270 IF NUM>=32 THEN POKE OFFSET2+2,PE
   EK(OFFSET2+2)+BIT:NUM=NUM-32
VT 2280 IF NUM>=16 THEN POKE OFFSET2+3,PE
   EK(OFFSET2+3)+BIT:NUM=NUM-16
LU 2290 IF NUM>=8 THEN POKE OFFSET2+4,PEE
   K(OFFSET2+4)+BIT:NUM=NUM-8
CA 2300 IF NUM>=4 THEN POKE OFFSET2+5,PEE
   K(OFFSET2+5)+BIT:NUM=NUM-4
ZI 2310 IF NUM>=2 THEN POKE OFFSET2+6,PEE
   K(OFFSET2+6)+BIT:NUM=NUM-2
FS 2320 IF NUM>=1 THEN POKE OFFSET2+7,PEE
   K(OFFSET2+7)+BIT
RO 2330 NEXT BYTE:OFFSET1=OFFSET1+8:OFFSE
   T2=OFFSET2+8
AW 2340 NEXT CHARACTER:RETURN
TQ 2400 REM Characters 128-255
AA 2410 FOR CHARACTER=MIN TO MAX
RO 2420 POSITION 24,9:? CHARACTER+128
WY 2430 FOR BYTE=0 TO 7
UA 2440 POKE OFFSET2+BYTE,255-PEEK(OFFSET
   1+BYTE)
RW 2450 NEXT BYTE:OFFSET1=OFFSET1+8:OFFSE
   T2=OFFSET2+8
BE 2460 NEXT CHARACTER:RETURN
QJ 3000 REM SAVE CHARACTER CODES
II 3010 ? :? CHR$(253);"Insert disk > (pr
   ess space bar)":? :POKE 764,255
YF 3020 IF PEEK(764)<>33 THEN 3020
RF 3030 ? "Saving codes to ";FILESPEC$:?
NX 3040 OPEN #1,8,0,FILESPEC$
QW 3050 X=USR(ADR(MC$),DGBAS,2048)
TO 3060 ? CHR$(253);"All done"
TC 3070 POKE 764,255:CLOSE #1:RETURN
VI 4000 REM MAIN PROGRAM
MO 4010 GOSUB 1000:REM Initialise
RN 4020 GOSUB 2000:REM Modify character s
   et
YN 4030 GOSUB 3000:REM Save character cod
   es
QW 4040 POKE 752,0:END
FO 5000 REM M/C OUTPUT DATA
VS 5010 DATA 104,162,16,169,11,157,66,3,1
   04,157,69,3,104,157,68,3
HV 5020 DATA 104,157,73,3,104,157,72,3,32
   ,86,228,96
```

ATARI BASIC LISTING PRINTER

This is the program to use to print a listing. When you execute it, after a short initialisation process, you are prompted to insert the new character code file, which has previously been created by the modifier program. After this has been loaded you are prompted to type the name of the file that you wish to print. This file must be saved in listed format. The file is then read in line by line, converted to its corresponding Dot Graphic codes which are moved to the output buffer and printed. When the entire file has been printed you are asked if you want to print another. Answer 'Y' to repeat the process and 'N' to end the program.

Listing overleaf ☞

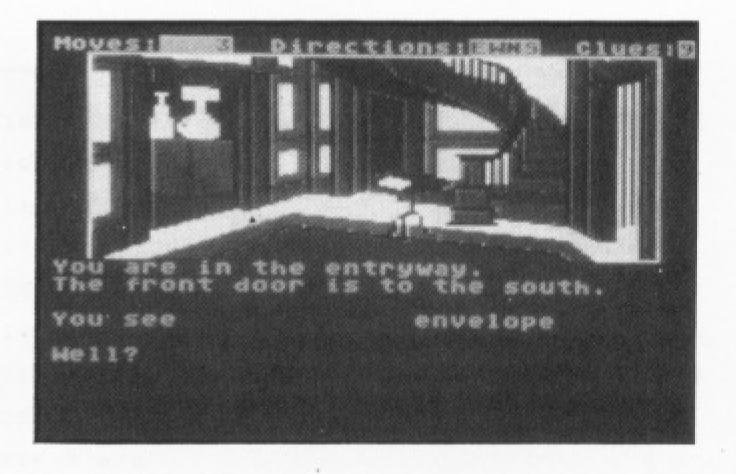
VARIABLES USED IN PROGRAM

MC1$	Machine code to input/output data	**P1**	Pointer to position of codes in character code buffer
MC2$	Machine code to copy 8 bytes of character code data to the output buffer and to update the output buffer pointer, P2	**P2**	Pointer to next available space in output buffer
FILEIN1$	Filespec of character code file	**NUM**	Holds the current byte being processed
FILEIN2$	Spec of file to list	**DGSIZE**	Number of Dot Graphic codes in output buffer
FILENAME$	Name of file to list	**LO,HI**	Low and hi byte of DGSIZE
DGBAS$	Character code buffer	**AGAIN**	Re-run program?
BUFFERIN$	Input buffer	**KEY**	Keyboard input
BUFFEROUT$	Output buffer	**ERR**	Error code
DGBAS	Start of character code buffer	**C1**	Channel #1
BUFFERIN	Start of input buffer	**C2**	Channel #2
BUFFEROUT	Start of output buffer	**FLASH**	Flashing keyboard prompt
INDEX	Index into character code buffer	**DELAY**	Time delay
INITFLAG	Flag to indicate successful initialisation	**I,X,A**	General variables

PROGRAM PRINTER *listing 2*

```
WO 1 REM ******************************
PZ 2 REM *     BASIC LISTING PRINTER    *
YZ 3 REM *       by David Sargeant      *
SQ 4 REM * -------------------------- *
IQ 5 REM * NEW ATARI USER - JUNE 1994 *
WT 6 REM ******************************
NM 7 REM
JR 50 GOTO 6000
ET 1000 REM INITIALISE
FY 1010 DIM MC1$(39),MC2$(39),FILEIN1$(13
   ),FILEIN2$(15),FILENAME$(12)
TG 1020 DIM DGBAS$(2048),BUFFERIN$(128),B
   UFFEROUT$(1024),INDEX(255)
XB 1030 FILEIN1$="D:DGCODES.FNT":FILEIN2$
   ="D:"
LV 1040 DGBAS$(1)=" ":DGBAS$(2048)=" ":DG
   BAS$(2)=DGBAS$
EZ 1050 BUFFERIN$=DGBAS$:BUFFEROUT$=DGBAS
   $
OX 1060 BUFFERIN=ADR(BUFFERIN$):BUFFEROUT
   =ADR(BUFFEROUT$):DGBAS=ADR(DGBAS$)
FW 1070 C1=1:C2=2:INITFLAG=0:TRAP 5000
HW 1080 REM Screen
SY 1090 ? CHR$(125):POKE 752,1
TF 1100 POSITION 6,1:? "***  LISTING PRI
   NTER ***":? :?
WE 1110 ? "Prints from a file containing
   an"
TX 1120 ? "Atari BASIC LISTed program usi
   ng"
IZ 1130 ? "character codes for the Citize
   n"
VO 1140 ? "120D+'s Dot Graphics mode.":?
YF 1150 POSITION 2,9:? "-----------------
   --------------------"
AV 1160 POSITION 2,11:? "Initialising..."
WS 1170 POSITION 2,15:? "-----------------
   --------------------"
ZI 1180 FOR I=1 TO 39:READ A:MC1$(I,I)=CH
   R$(A):NEXT I
AO 1190 FOR I=1 TO 39:READ A:MC2$(I,I)=CH
   R$(A):NEXT I
SD 1200 FOR I=0 TO 255:INDEX(I)=I*8+DGBAS
   :NEXT I
FN 1210 POSITION 2,11:? "Insert ";FILEIN1
   $(3);" > (Press any key)"
NC 1220 POSITION 2,13:? "Enter file name
   D:>"
LQ 1230 REM Input character codes
UP 1240 POSITION 22,11:GOSUB 4000
FI 1250 OPEN #C1,4,0,FILEIN1$
WM 1260 X=USR(ADR(MC1$),C1*16,7,DGBAS,204
   8)
HM 1270 CLOSE #C1:INITFLAG=1:RETURN
WZ 2000 REM PRINT PROGRAM
ZO 2010 POSITION 22,13:GOSUB 4500:IF I=1
   THEN 2010
HE 2020 FILEIN2$(3)=FILENAME$
GT 2030 OPEN #C1,4,0,FILEIN2$:OPEN #C2,8,
   0,"P:"
QU 2040 RESTORE 7100:FOR I=1 TO 6:READ A:
   PUT #C2,A:NEXT I
BE 2050 X=USR(ADR(MC1$),C1*16,5,BUFFERIN,
   128):IF X=0 THEN 2130
JA 2060 P2=BUFFEROUT
UO 2070 FOR I=0 TO X-2:NUM=PEEK(BUFFERIN+
   I)
MN 2080 P1=INDEX(NUM):P2=USR(ADR(MC2$),P1
   ,P2):NEXT I
JV 2090 DGSIZE=(X-1)*8:HI=INT(DGSIZE/256)
   :LO=DGSIZE-(HI*256)
VB 2100 PUT #C2,27:PUT #C2,76:PUT #C2,LO:
   PUT #C2,HI
MO 2110 X=USR(ADR(MC1$),C2*16,11,BUFFEROU
   T,DGSIZE)
GX 2120 PUT #C2,10:GOTO 2050
SF 2130 CLOSE #C1:CLOSE #C2:RETURN
JF 3000 REM LIST ANOTHER?
DY 3010 POSITION 2,19:? "List another pro
   gram (Y/N)>":AGAIN=0
EL 3020 POSITION 29,19:GOSUB 4000
AT 3030 IF KEY=78 OR KEY=110 THEN RETURN
ND 3040 IF  NOT (KEY=89 OR KEY=121) THEN
   3020
AT 3050 POSITION 22,13:? "               "
HZ 3060 POSITION 2,17:? "
                   "
VJ 3070 POSITION 2,19:? "
               ":AGAIN=1:RETURN
IO 4000 REM KEYBOARD INPUT-1 CHARACTER
VK 4010 FOR FLASH=1 TO 3:SOUND 0,29,10,8
WM 4020 FOR DELAY=1 TO 30:NEXT DELAY:? CH
   R$(30);">";:SOUND 0,0,0,0
ND 4030 FOR DELAY=1 TO 30:NEXT DELAY:? CH
   R$(30);">";
AW 4040 NEXT FLASH:POKE 764,255
MU 4050 OPEN #C1,4,0,"K:":GET #C1,KEY:CLO
   SE #C1:RETURN
QU 4500 REM KEYBOARD INPUT-12 CHARACTERS
VU 4510 FOR FLASH=1 TO 3:SOUND 0,29,10,8
WW 4520 FOR DELAY=1 TO 30:NEXT DELAY:? CH
   R$(30);">";:SOUND 0,0,0,0
NN 4530 FOR DELAY=1 TO 30:NEXT DELAY:? CH
   R$(30);">";
BG 4540 NEXT FLASH:POKE 764,255
AT 4550 OPEN #C1,4,0,"K:":I=1:FILENAME$="
            "
IL 4560 GET #C1,KEY:IF KEY=155 THEN ? :CL
   OSE #C1:RETURN
VJ 4570 IF KEY=126 AND I>1 THEN ? CHR$(30
   );CHR$(254);:FILENAME$(I-1,I-1)=" ":I=
   I-1:GOTO 4560
ZY 4580 IF I>12 THEN 4560
FO 4590 IF  NOT (KEY=46 OR (KEY>=48 AND K
   EY<=57) OR (KEY>=65 AND KEY<=90)) THEN
    4560
ND 4600 ? CHR$(KEY);:FILENAME$(I,I)=CHR$(
   KEY):I=I+1:GOTO 4560
RZ 5000 REM ERROR TRAP
ZE 5010 TRAP 5000:ERR=PEEK(195):POSITION
   2,17:? "Error #";ERR;
GH 5020 IF ERR=170 THEN ? " - File not fo
   und"
OA 5030 IF ERR<>170 THEN ? " - Check disk
    drive"
YO 5040 IF INITFLAG THEN CLOSE #C1:CLOSE
   #C2:POP :GOTO 6030
YS 5050 FOR DELAY=1 TO 500:NEXT DELAY:CLO
   SE #C1
BB 5060 POSITION 2,17:? "
               ":GOTO 1230
VK 6000 REM MAIN PROGRAM
MQ 6010 GOSUB 1000:REM Initialise
DQ 6020 GOSUB 2000:REM Print program
SL 6030 GOSUB 3000:REM List another?
UL 6040 IF AGAIN THEN 6020
OX 6050 TRAP 40000:POKE 752,0:END
OW 7000 REM M/C INPUT DATA
NE 7010 DATA 104,104,104,170,104,104,157,
   66,3,104,157,69,3,104,157,68
TP 7020 DATA 3,104,157,73,3,104,157,72,3,
   32,86,228,189,72,3,133
WN 7030 DATA 212,189,73,3,133,213,96
NV 7040 REM M/C COPY DATA
BU 7050 DATA 104,104,133,204,104,133,203,
   104,133,206,104,133,205,160,0,177
DY 7060 DATA 203,145,205,200,24,192,8,208
   ,246,165,205,24,105,8,133,212
AC 7070 DATA 165,206,105,0,133,213,96
ZN 7080 REM PRINTER CONTROL CODES
VM 7090 REM Page length and top margin
PJ 7100 DATA 27,67,70,27,78,4
```

THE DALLAS QUEST



You are in the living room. You see a bugle, a rifle and Sue Ellen. What now? Perhaps I should explain. This is the opening sequence of THE DALLAS QUEST, a graphical adventure from Datasoft, dating back to 1984. Dallas may no longer be showing on the box, but thanks to Micro Discount you can now re-live the daily traumas of the Ewing household. Gosh, thanks M.D.!

The Dallas Quest adventure begins at Southfork, where you've been summoned by Sue Ellen to consider a proposition. She's in possession of a letter from Jock Ewing to Miss Ellie which describes an extremely rich oil field he has discovered in South America. Poor Jock didn't survive the return trip, but the letter reveals he has lodged a copy of the oil field map with an old friend, together with instructions to hand it over to the person in possession of a special ring. This ring is enclosed with the letter, and Sue Ellen believes that with your help she can get the map and use the wealth to escape from JR. JR, who just happened to overhear your entire conversation, does not want this to happen and will use any means to stop you. An unbelievable story? Well, Dallas always was!

The game loads up with pictures of JR, the South Fork entrance and music from the television series. The screen is split roughly in half, with the top portion displaying an artistic drawing of your current location (with occasional animation) and the lower part as a text area for inputs and replies. You can turn off the graphics if you want to speed up the response. The parser is fairly straightforward, recognising standard two-word phrases such as 'Get Shovel' and 'Go North'. There's a clue facility that will give you up to nine hints, if needed. Alternatively you can refer to issue 43 of NAU, where the Tipster offered a complete solution!

I must admit I've never been an adventure fanatic - they all seem too much effort for me! However, I have it on good authority that The Dallas Quest is not particularly challenging and may not keep experienced adventurers puzzling for more than an hour or so. The graphics are excellent, but the adventure is let down by a poor (and sometimes illogical) plot. You might be wiser to invest in some BP shares instead!

Title:	***THE DALLAS QUEST***
Publisher:	***Datasoft***
Supplier:	***Micro Discount***
Format:	***Disk***
Price:	***£9.95***
Reviewer:	***Paul Rixon***

MAZE GAMES 1

The games in this thematic compilation were advertised on the back cover of the very first Page 6 magazine - and priced at more than £55 in total! Originally launched in 1980 by Sierra On-Line, **JAWBREAKER** and **MOUSEKATTACK** have now been rescued from obscurity (or the author's attic) and re-released as a disk-based double pack.

As the compilation's title suggests, both games involve mazes and they are, in fact, variants on the Pac-Man theme. In Jawbreaker your joystick controls a set of teeth and the aim is to gobble up a trail of candy. As you munch your way through the maze you are constantly pursued by four 'happy faces'. If caught, your teeth drop out and you lose a life! Jawbreakers positioned in each corner of the maze can be swallowed to temporarily turn the tables on the nasties, but this useful effect doesn't last for long. When you've cleared the screen of candy there's an amusing pause while the knashers are cleaned by a giant toothbrush, then it's onto the next level. Once you've achieved a satisfactory highscore, you might wish to try an alternative maze. Simply press the Shift key during boot-up to reveal a slightly different design.

Mouskattack presents a similar challenge, except that rather than having to collect items, you need to deposit them. You are employed by the Rodent Rooter Company and have been told to lay water pipes in each corridor of a maze. Unfortunately the maze inhabitants, three extremely large rats, are not keen for you to succeed! Contact with the rats is a trifle unpleasant, but fortunately your employer has equipped you with some handy extras - two cages and two 'defence cats'. The cages trap any passing rats for a short time, during which they are vulnerable to attack from you. The defence cats can be placed anywhere in the maze to obstruct the rodents' path - such action is often essential to complete a level. Another problem is that due to defective plumbing, some corridors may have to be visited more than once to lay the correct pipe configuration. If it's too much to handle alone, you can invite another player to participate using a second joystick.

These games may be very old, but they're still quite playable, amusing and (dare I say) addictive. If you like Pac-Man, this is your lucky day!

Title:	***MAZE GAMES 1***
Publisher:	***Richard Gore***
Supplier:	***D.G.S.***
Format:	***Disk***
Price:	***£6.95***
Reviewer:	***Paul Rixon***

BUG SWATT

You don't have to put up with bugs in your programs. Ann O'Driscoll has one or two ways of dealing with them

Program errors or "bugs" occur for lots of reasons and take many different forms. Some will prevent your program from running at all, while others may remain hidden for ages and only become activated when, say, a particular key is pressed or date entered.

Atari users are lucky because, unlike some other BASICs, we have a TRAP command which is used to prevent a program from stopping when it comes across an error. This takes the form

TRAP n

where "n" is the line number to which the program is directed when it meets the bug. LISTING 1 shows this in operation for the INPUT command: LINE 120 sets the trap. If anything other than a number is input in LINE 130, the program goes to the routine at LINE 200, the line specified in the TRAP statement. This section of the program outlines the mistake and, after a short pause, goes back to wait for another input. Without the TRAP statement entering, say, a letter, at LINE 130 would have generated an "Error 8 at LINE 130" message and the program would have stopped. Error code number 8 means that there has been an input statement error, while line 130 is where the mistake occurred.

In memory terms, location 195 holds the number of the error code while locations 186 and 187 hold the line number of the error in low byte, high byte order. LISTING 2 shows these locations in use. The program generates a few errors and sets a trap (to LINE 900) for each one. The error routine displays the "ERROR X AT LINE Y" message, fixes the bug if appropriate and goes back to the main program when you press START. For instance, LINE 330 references a string called A$, which does not exist. This causes an error (code 9), the program goes to LINE 900 and, because PEEK(195)=9, A$ is dimensioned (LINE 920). The program returns to LINE 320 (specified by the variable, LIN) when START is pressed. There are no further problems when it hits LINE 330 because the error has been rectified. LINE 230, which generates a dividing by zero error (code 11), works the same way. This time LINE 910 solves the problem by setting the variable B (initially zero because it wasn't defined) equal to 1. Of course, in real programs things would be more complicated than this as the exact "fix" would not be as evident as is the case here. Nevertheless, the listing may give a few ideas on how some purpose built error messages might be built into your own programs.

```
AE 100 REM PROGRAM 1: TRAPPING INPUT
QS 102 REM
QR 110 ? "INPUTTING NUMBERS: ":?
AW 119 REM -- INPUT LOOP
KE 120 TRAP 200
IX 130 INPUT A
MX 150 GOTO 130
ZS 199 REM -- TRAP MESSAGE
XB 200 ? "[inverse char]INPUT NUMBERS ONLY!":FOR D=1 T
   O 500:NEXT D
MF 210 GOTO 120
```

READING DATA

The line number highlighted in an error message tells you where the program stopped - or would have stopped if you've set a trap - because of the error. While in general this is where the offending line is, this is not always the case. For example, Error 6 is generated when the computer tries to READ past the end of the program's DATA list. In this instance the out of data message references the READ line, not the DATA statement line. As a simple illustration of how easily the "insufficient data" problem can arise, take a look at the following two statements:

DATA 1,2,3.4,5,6,7,8,9,10

DATA 1,2,3,4,5,6,7,8,9,10

Both appear to be the same at first glance, and both could be correct, but the first one only contains 9 DATA items while the second contains 10 (3.4 on top is one entry; 3 and 4 on the bottom are two separate entries). LISTING 3 is a small demonstration of how a TRAP can be set to catch DATA errors like this. The trap is put in before the READ statement and, after

ING

the error message is displayed, the program is returned to a line after the end of the FOR NEXT loop so that the program can continue. Knowing how much DATA has been READ can be a useful guide to finding out where the problem is. While it might be as simple as typing a full stop instead of a comma, thus making one data item out of two, a whole line or more of DATA could be accidentally omitted if you are copying a listing from elsewhere.

TYPE-IN LISTINGS

Of course, if you are entering a listing from a book or magazine, you should use an error checker - like Page 6's "Typo 3" for the programs in New Atari User - if you can. While line by line checkers can't pick up on whether or not you have missed out on lines, they will be able to tell you if the lines you have typed have been copied correctly. Problems with type-in listings are often simple. Mixing up characters which look similar - like zero and the letter O, or lower case "l" and the digit "1" - are common mistakes. Another one is to substitute a variable name for one you are familiar with. For instance, if you always use "L" for lives in your own programs and the listing uses something else, you may accidentally use "L" in the program you are copying, and so prevent it from functioning properly.

TRACING ERRORS

In tracing bugs, both in your own programs and copied listings, it's a good idea to try and track down - and deal with - each one as it crops up. It often helps if you LIST the lines immediately before and after the line number indicated in the error message as well. It is easier to spot transcription and other simple errors if you concentrate on just a few lines at a time, on an uncluttered screen. If the line shown in the error message has more than one statement, try to split it up into a number of 'stand alone' statements, giving a separate line to each one if possible. Then re-RUN the program to see which of the new lines in the set causes the problem.

With a bit of luck, you will be able to correct the fault once you have the error code and the line number, with the help of your computer manual. For instance, if your message tells you that you have an undimensioned array, find the section of the program which initialises the arrays and take it from there. You should always bear in mind that the bug may not be in the line indicated by the error message, as we saw above with READing DATA errors.

Variables may also cause problems in this way, because they can pick up incorrect values long before they are spotted.

```
UZ 100 REM PROGRAM 2: VARIOUS ERRORS
Q5 102 REM
VE 119 REM -- INPUT A NUMBER
HZ 120 LIN=120:TRAP 900
VA 130 ? "PLEASE INPUT A NUMBER: ";
IZ 140 INPUT A
FQ 219 REM -- GENERATE ERROR 11
IJ 220 LIN=220:TRAP 900
MQ 230 ? A/B
VI 319 REM -- GENERATE ERROR 9
IT 320 LIN=320:TRAP 900
UA 330 A$=STR$(A)
VL 519 REM -- GET ANOTHER NUMBER
MK 520 GOTO 120
FI 899 REM -- TRAP MESSAGES
SZ 900 ? "ERROR ";PEEK(195);" AT LINE ";
   PEEK(186)+256*PEEK(187)
JF 910 IF PEEK(195)=11 THEN B=B+1
PJ 920 IF PEEK(195)=9 THEN DIM A$(10)
MF 930 ? "PRESS START TO CONTINUE"
EJ 940 IF PEEK(53279)<>6 THEN 940
UT 950 GOTO LIN
```

These bugs tend to be more difficult to track down in typed-in listings as the inter-relationships between the different numbers may not be clear, whereas in your own programs you would probably have a good idea of what the values of the variables should be at different stages. In any event, it often helps if you divide the program up into sections and put in temporary STOP statements after each one. Then RUN the program through each stage and print out the values of the variables - not just the offending one - each time. While this may be time consuming if the listing is long, it may enable you track down the area of the program where the faulty variable is being generated.

Sometimes, of course, a problem with variables can turn out to be very simple, like using two variables for the one thing: A common one here would be to accidentally use both "S" and "SC" for score. If "S" is incremented during the program, then a line beginning

```
IF SC=100 THEN ..
```

will never be acted on. A utility like Ian Finlayson's Variable Checker, published in Issue 65 of NAU, can be very useful in cases like this as it enables you to list out all the variables in a program.

INPUT VALIDATION

Within your own programs, errors caused at the input stage - wrong keys being pressed accidentally or deliberately, can be caught in a variety of ways. For instance,

```
40 IF PEEK(764)<>35 AND PEEK(764)<>43 THEN 40
```

keeps the program on line 40 until either Y (PEEK(764)=43) or

N (PEEK(764)=35) is pressed. If, say, a whole range of input values are acceptable, then a few lines such as

```
50 INPUT N
60 IF N<MIN OR N>MAX THEN 50
```

will do the trick, where "MIN" and "MAX" are predefined minimum and maximum values set earlier in the program. A TRAP might also be used here, to catch errors involving non-numeric inputs (error 8). The trap must be set before the INPUT statement. Other useful aids to catch unwanted inputs are

```
POKE 702,64 to disable lower case
POKE 694,0 to disable inverse
```

These should be put in before the INPUT line. You may also like to disable the BREAK key as an additional safeguard. This is done with

```
POKE 16,64 followed by POKE 53774,64
```

At the end of the day, if you plan your program well you should be able to cut down on accidental illegal entries and thus eliminate a lot of likely errors at source. For instance, if your program requires a lot of user input, its a good idea to try and use the same methods of responses and prompts throughout. If you start off using the GET command, and then suddenly change to INPUT, the user might get confused as he/she now has to remember to press return after the keys as well. Aim to be consistent if your program has lots of menus too - If the first menu has options a to c, don't have one later in the program with options 1, 2 and 3 or even A, B and C, as this increases the chances of an incorrect response. While you may have taken adequate steps to flag these "errors", it's even better if you can prevent them happening in the first place.

```
TF 100 REM  PROGRAM 3: READING DATA
QS 102 REM
KQ 119 REM  -- READ DATA LOOP
II 120 LIN=220:TRAP 900
RI 130 FOR N=1 TO 8
HZ 140 READ DAT
HZ 150 NEXT N
GZ 160 DATA 1,2,3,4,5.6,7,8
DA 219 REM  -- CONTINUE PROGRAM
HX 220 ? "↓The TRAP was sent back to"
XT 230 ? "here so that the computer"
MD 240 ? "wouldn't try to re-read the"
BW 250 ? "DATA...":?
OD 260 END
WX 899 REM  -- TRAP MESSAGE
PT 900 ? "YOU HAVE ONLY ";N-1;" DATA ITE
   MS"
MB 910 ? "PRESS  START  TO CONTINUE"
BZ 920 IF PEEK(53279)<>6 THEN 920
UP 930 GOTO LIN
```

PROGRAM PRESENTATION

Just as some clear, user friendly prompts can make all the difference at the input stage, putting a bit of thought into the program as a whole can cut down on "presentation errors". For example, at one stage or another, most people have come across statements like

"YOU HAVE 1 LIVES LEFT"

There are no fixed rules about fixing this type of "bug", other than to go through the finished program carefully and think of the possible glitches or inconsistencies. Often one or two IF THEN statements will do the trick: For instance, a few lines like

```
200 ? "You have ";L;" ";
210 IF L=1 THEN ? "life left":GOTO 230
220 ? "lives left"
230 REM continue program
```

will solve the "1 LIVES" problem here. An alternative way of getting over the singular/plural problem is to use a line such as

```
200 ? "MEN LEFT: ";M
```

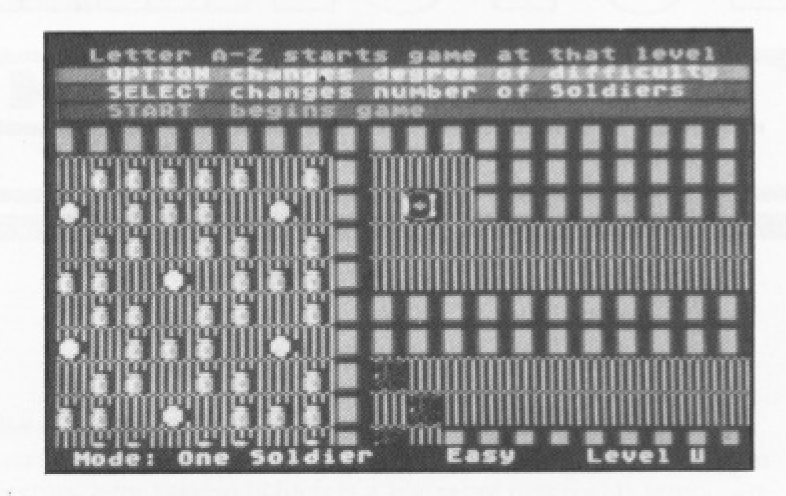
Another common presentation error is to forget to rub out the "tens" column in a countdown sequence, so it reads 12, 11, 10, 90, 80, etc. This can be fixed by putting a space (or two spaces to rub out the "hundreds" column) after your number, as in

```
POSITION 20,0:? C;" "
```

The few extra hours spent on debugging and crash-proofing a program are generally worth the effort in the long run. If you spend a long time tracking down an error first time round, you are less likely to make the same mistake again. Similarly, trying to anticipate problems as you build up your input routines may help you develop some customised procedures for use in other programs. In this way, "bug swatting" can be looked on as a valuable learning experience. Finally, while presentation errors do not affect the running of a program, correcting them can give your work that 'touch of class' which makes your program special.

DISK BONUS

ALIENS



Derived from Dandy Dungeons, Aliens is a 26 level space adventure in which cooperation among players, rather than competition, is the key to success.

Certain executives from The Company are attempting to transport dangerous Alien lifeforms to Earth. A freighter leaving LV-426, is now rapidly approaching Earth base. Your mission is to:

1. *Head your Marine(s) (up to 3 with 2 players) and board the freighter.*
2. *Collect any Alien specimens found (for later disposal).*
3. *Get out alive!*

You, or you and another player, must get past Aliens of varying danger; you lose strength each time an Alien rams you, and you must constantly obtain protective vests and remember to replenish your strength by outfitting yourself with new vests when your strength deteriorates.

Should you lose all strength, you wind up in limbo, but your partner can revive you by shooting into one of the many large blue Alien eggs scattered throughout the freighter. If you are playing Aliens in the single player mode and your strength drops to zero, then *YOU ARE DEAD!!* They got you.

Bombs can be picked up along the way and dropped at strategic times to wipe out all Aliens in the area. You will also need to pick up blowtorches to melt the secured airlocks of the freighter. Once you explore a level, wiping out Aliens and collecting up all the Alien specimens, you head for the square dark blue portal in the maze to be transported to the next level.

PLAYER STATUS DISPLAY

STRENGTH: A player's strength starts out at 90%, which is the maximum you can attain. Being hit by Aliens reduces your strength by a percentage equal to the type of Alien you encountered. They all look the same. Ugly!

VESTS: A player may carry up to nine protective vests. Players start a game with no vests.

BOMBS: A player may carry up to nine Bombs. Players start a game with no bombs.

BLOWTORCHES: A player may carry up to nine blowtorches. Players start a game with none.

SCORE: Each player has a six digit score on the right end of the status line. Gathering Alien specimens or killing live Aliens adds to this score.

While playing the game, the screen shows the section of the freighter your Marines are currently exploring. Each level is three screens high and three screens wide. Stick together! If one of your party wanders off the screen, nothing happens to him. The off screen member just can't fire or see where he is going, until he rejoins the main group! The group cannot advance until he joins them.

PLAY CHARACTERISTICS

Each player is represented on the screen by a little Marine wearing a coloured uniform. Player one is dressed in blue, and player two is dressed in brown.

Plasma guns are fired with the joystick button and are used to kill the many monsters you will run into. They do no harm to other members of your party.

To collect specimens, etc., just move your Marine across them.

To maintain your strength level you must put on new ***protective vests***. To do this, just press the number key on the keyboard that represents your on screen figure. Example, "1" or "2". If you have any vests, the number of vests indicated on the status line for your figure will then decrease by one, and your Marine's strength level will increase to 90%. *NOTE: your strength level will only decrease if you get rammed by an Alien.*

Bombs destroy all Aliens visible on the screen. At times, bombs are your only defence to keep from being overwhelmed by Aliens. To explode a bomb that is on the screen, just shoot it with your plasma gun. To explode a bomb that you have picked up previously in your travels, hold down the SHIFT key and press your player number on the keyboard. A little awkward, but you will get the hang of it.

Blowtorches are needed to open airlocks, represented by barriers. Pick up as many blowtorches as you can find, and use them wisely. You cannot get through a secured airlock without a blowtorch.

Pressing the SPACE BAR pauses the game. To start again, just press the SPACE BAR once more.

Pressing any of the function keys will also start the game over.

THINGS YOU WILL ENCOUNTER

ALIEN SPECIMENS: will look like a small blue canister

BLOWTORCHES: look a little like a blowtorch

BOMBS: look like miniature bombs

ALIENS: look like ugly wriggling life forms. Can be killed with 1 to 3 shots

Some Alien forms actually create other Aliens, sometimes almost faster than you can kill them off. These MUST be killed, thus preventing them from creating more Aliens, but it's not easy.

Sometimes Aliens can become so thick all at once that the only way to save yourself is with a bomb. Use the bombs wisely, and then only as a last defence. There are not that many bombs to be found.

CREATING YOUR OWN SPACEBASE

Boot up ALIENS as far as the title screen. Remove the Aliens disk and place in the drive a blank formatted disk. Press the space bar to get to the game menu. At the game menu, press SELECT key until Aliens editor displays, and then press START.

Move the joystick around the screen. You will see the character currently under the cursor displayed in the "indicated character" spot designated by the " "<---" " at the top of the screen. To chose that character for placement in your new game level, just press that character on the keyboard. Then use your fire button on the joystick to place it where desired on the screen.

Alien uses the current level to read or write a level design. The "Level" indicator at the bottom line tells you which level is the current one. The "-" key moves you toward level "A" while the "=" moves you toward "Z". Pressing "W" will write your new level to disk. Pressing "R" reads a level from disk. If level is not on disk, Aliens will create a blank level with just an up and down passage for you to edit.

PRINTING HARD COPY OF ALIENS

Included on the disk is a Basic program called PRINTLEV.BAS. This will print Alien levels to your printer. After running this file with your Alien levels disk in the drive, the screen will prompt you asking which level you wish printed. The "*" will print all levels.

Just type the level that you wish printed. The program will read in that level and prompt you to ready your printer. Press return and the printer begins.

ALIENS LEVEL FORMAT

An Alien level consists of 30 lines of 60 squares each. Each character can be any one of sixteen items, so each byte of data in the file can represent two Alien squares.

Have fun and experiment with this great game. It can be as easy or challenging as you chose to make it.

ALIENS is the BONUS on the New Atari User Issue 68 disk. Disk subscribers will have received their copy with this issue but the disk is available separately for just £2.95. Send your cheque or postal order to PAGE 6, P.O. BOX 54, STAFFORD, ST16 1DR or order by phone with your credit card. Telephone 0785 213928.

Ian Finlayson's

TUTORIAL TIME

TEXT USING

I hope that all of you have had time to use Textpro and to develop your knowledge through trial and error. I know some of you are having a go because of the letters you have written, and some are thinking of trying but have not yet acquired the program.

Sam Williams from Ohio (yes New Atari User is seen all round the world!) has written with three questions. Two can be answered quite quickly and the third will take the rest of the article, as it gives me an opportunity for a practical example of the use of macros.

First he asks whether Textpro permits the use of double density. Yes it does. In fact Textpro works with many of the different operating systems that are available for the Atari. The documentation particularly recommends the use of Spartados. The only DOS that they advise against as being incompatible is MyDos. If the DOS you are using supports double density so will Textpro, and if you have a high speed disk drive (with Doubler or Plate) and a DOS like Spartados that can take advantage of the enhancement then your Textpro file transfers can really fly.

Sam's second question asks where he can find an aid to use add on memory. I am not certain of the answer to this. I know that over the years there have been one or two programs that made use of extra memory by bank switching, but memory add-ons never sold in large enough numbers to establish a large user base and so commercial software has generally stuck to the standard Atari memory configurations. The only common use of extended memory that I know of is for RAM disks, and Textpro takes advantage of extra memory in this way if your DOS supports it. Once again Spartados is very good here. My 800XL was expanded to 256K many years ago and with Spartados this gives a RAM disk (D8:) with 1530 sectors. If you have a RAM disk Textpro can swap files in and out of it very fast giving you the ability to cut and paste between documents.

Finally Sam's third question was - "Does Textpro permit print out in a two (2) column format?". This is the one that takes some answering.

TWO COLUMN FORMAT

The answer to the two column question is "Yes ... and No!" If you want to be able to turn on two column working at a key press the answer is no, but Textpro does not stop you from achieving a two column print out, it just needs a little ingenuity. I have developed a set of macros that assist in automating the process, and even if you do not use double columns very often this will give you an example which shows how easy it is to create macros and use them.

WRITING THE MACROS

Although writing macros is not difficult it requires care and precision. It is essential to know the exact key sequences that you are going to put into the macro. The best way to prepare is to go through all the actions you want to automate, writing each keypress down before you start to write the macro.

Start with a blank new "document". First we will write a short description of the purpose and use of the macro. This is useful later when you have forgotten what "COLUMNS.MAC" does, it does not effect the functioning of the macro at all. Type in the following text.

"Macros for creating double columns.[RETURN][RETURN]
L for left column, R for right column, S for screen display and T to insert appropriate codes at the top of the document.[RETURN][RETURN]"

That is the easy bit. Now we type in text strings that are the equivalent of the key presses that we wish to automate. I will explain a line at a time.

Type: L[SELECT]+=[SELECT]+l5[SELECT]+r39[RETURN]

Remember the convention I started in the previous articles names in brackets like [SELECT] refer to the key of that name and the + sign means hold down the key and type the next letter (only the next letter, no more). If I find I need to use the + key in its own right for any reason I will explain at the time!!

What does this first line mean? The L is the selected letter that invokes this macro, so when the macros are loaded [OPTION]+L will cause all the rest of this line to execute.

[SELECT]+= results in an inverse = sign on your screen. This is the standard delimiter which indicates the start of a macro string.

[SELECT]+l results in an inverse l on screen. It is the print code to set the left margin (just the same as typing it into a document normally). The 5 means five characters from the left edge of the paper.

[SELECT]+r39 is very similar, it sets the right margin to 39, just under half way across an 80 character page.

Now a short cut. Move your cursor till it is on top of the L at the beginning of the line, and press [CONTROL]+D for delete. The top line goes red with the prompt "Delete (S,W,P):". Press P (for paragraph) and the line you just carefully typed disappears!

Do not despair - deleted text is held in a buffer. Press [RETURN] to get out of delete mode then [CONTROL]+R and it reappears. Now move your cursor down a line and press [CONTROL]+R again and the line is repeated. Now change the first letter of the duplicate line from L to l and this will ensure

T PRO

G MACROS

that the "L" macro operates with either upper or lower case L.

The next two lines are almost identical to the first two. Just replace L and l with R and r and change the left margin from 5 to 41 and the right margin from 39 to 75. These are the settings that form the right text column.

The fifth and sixth lines are for the [OPTION]+S macro. Type: S[SELECT]+=[ESC][CONTROL]+P[ESC][DELETE BACK SPACE-][ESC][DELETE BACK SPACE]E:[RETURN]

S[SELECT]+= identifies S as the macro key.
[CONTROL]+P means print. It brings up the prompt "Print File>P:" on the top line, but by putting [ESC] in front we stop it acting immediately, though it works when the macro is run. The two [DELETE BACK SPACE] commands similarly have an [ESC] in front to stop them acting immediately. They cause the cursor to step back deleting the "P:" from the end of the print prompt and this is then replace by "E:" to redirect the print command to the screen. The [RETURN] at the end of the line starts the printing. As before this line is duplicated so that s works as well as S.

Finally the two "T" lines. These are created by T (or t) followed by [SELECT]+=[ESC][CONTROL]+H[ESC][CONTROL]+H [SELECT]+w[ESC][SELECT]+[CONTROL]+GL[RETURN].

The two [ESC][CONTROL]+H commands take the cursor to the top of the document then the [SELECT]+w inserts an inverse w which causes printout to pause at the bottom of each page when you print. The [ESC][SELECT]+[CONTROL]+GL calls the macro that we defined for L earlier and inserts the left and right margin settings for a left hand column.

Once all the typing is complete the macros are saved to disk by [CONTROL]+S and the file name - I suggest COLUMNS.MAC. If you use the .MAC extender for all your macros it is easy to pick them out from other documents in the directory list. If you have had difficulty with the above and you have a disk subscription you will find a copy of COLUMNS.MAC on the disk.

USING THE MACROS

Now that the macros are defined and saved to disk how can they be used? First load the text file you wish to print into Textpro (use [CONTROL]+M to list the files on your disk). It will be best if it is a bit more than a page long. Textpro will handle any file - a LISTed basic program or even a machine code program, but it is easier at this stage to see what is going on if a plain text file is used.

Now load the columns macros by [CONTROL]+V COLUMNS.MAC and [RETURN]. When you load macros any other macros that were already in memory are lost, so all the built in Textpro help system (which is a big set of macros) is temporarily missing. Now use the "T" macro to put the correct codes at the top of the page by pressing [OPTION]+T. The text is now configured to print as a single narrow left hand column with a pause at the bottom of each page. Use [OPTION]+S to display the text on screen in the same format that it will print on paper. The display stops and prompts for a keypress at the bottom of each page, so you can see where all the page breaks come.

Make a note of all the page breaks as you go through the document. When you have been right through the document Textpro will return to the edit screen. Now move down the editor to the first page break position and use [OPTION]+R to insert right column margin codes. Go to the next page and use [OPTION]+L and so on alternating through the document. When you have finished you can use [OPTION]+S again to view the text. The left hand columns all display as they will print, but the right hand columns appear to be double spaced. This is because the right columns start 41 characters from the left margin and the Atari screen is only 40 characters wide so they wrap to the next line.

The position of page breaks can be tidied up if necessary by inserting [RETURNS] when in the edit screen, but remember that each change can have a cumulative effect later in the document. A little trial and error is needed. While you are in the editor it can be useful to use [CONTROL]+W to find out where you are in the printed document - the page and line number is displayed in the top line so you can find out if the cursor is at the bottom of page 1 or the top of page 2 without "printing" to the screen each time.

Now you can print your document in two columns by printing the first page, reinserting the same sheet of paper (single sheet) or turning back to the top of the page (continuous paper) and then printing the second "page" - it becomes the second column on the first page. Repeat this procedure for subsequent pages. There are a very few printers that allow reverse line feeds and if you have one of these it is possible that you could embed the reverse line feed codes into your document to take you back to the top of the page automatically.

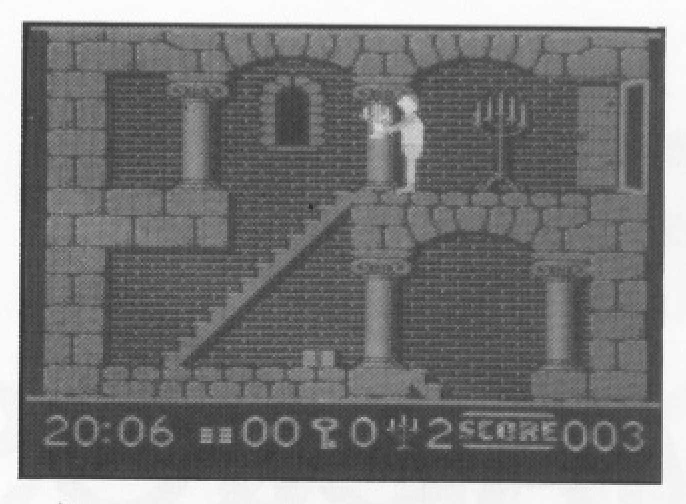
Now you can do double column printing, and you have an introduction to the use of macros. If you need to use the Textpro help it must be reloaded when you have finished with your column macros by [CONTROL]+V TEXTPRO.MAC.

If you have questions about Textpro or any good macros of your own you would like to share please write to me. If you enclose a SAE I will try to send you an answer.

My address is:

Ian Finlayson, 60 Roundstone Crescent, East Preston, West Sussex, BN16 1DQ

MIDNIGHT



This latest 'new' release from Micro Discount is an arcade adventure by Mirage, the Polish software house whose past creations have seldom failed to impress. MIDNIGHT was actually written by one Jiri Bernasek of Prague in Czechoslovakia and presumably imported to the UK via M.D.'s arrangement with Dutch distributors A.N.G. The Atari 8-bit lives on - world-wide!

Despite the game's international background, the screen text and instruction sheet are written in English. The latter informs you that an evil wizard wants to destroy your castle, though it's not revealed exactly why. All the servants have apparently fled in terror, leaving you to defend the ancestral home. As luck would have it, the wizard has a weakness - he's afraid of light. Therefore, if you place candles in all the rooms before the bewitching hour of midnight, the castle should be saved. Simple enough?

Ultimately you'll have to visit a total of one hundred rooms, all of which are viewed from a side-on perspective. There are numerous pillars, stairways, doors, walls, windows and hazards so your journey through the castle should be anything but dull. Your task is to collect candles, place them in the candelabra and light them with your own guiding flame. Keys are sometimes required to access locked doors and various other pitfalls (hint) will need to be overcome. A variety of flying and crawling nasties will attempt to rob you of your candlesticks. You should try to keep away since there are few sticks in reserve and once they're gone, it's finito! You can jump to avoid obstacles, but this action tends to blow out the candles and you'll then have to return to a previous screen to light them up again.

The graphics are nicely done, albeit rather yucky brownish(!), and your joystick-controlled character is well animated, especially considering his larger-than-average size. A nice touch is that if you stand near a window and pull on the joystick, you are treated to an exterior view of the castle with lights in the windows to indicate the extent of progress. There's a time restriction of four hours to completion, though the minutes in this world last around fifteen seconds!

Midnight is an addictive and enjoyable game, as we've come to expect from Mirage. Music and visual effects give no cause for complaint, whilst the theme of the adventure is sufficiently unique to make the challenge worthwhile. Good stuff!

Title:	***MIDNIGHT***
Publisher:	***Mirage***
Supplier:	***Micro Discount***
Format:	***Disk***
Price:	***£6.95***
Reviewer:	***Paul Rixon***

HUMANOID

It's a while since we were last treated to a decent new alien blaster so the arrival of HUMANOID, from Polish company Sonix, couldn't really have been better timed. I'm pleased to report that in Micro Discount's version both screen text and instructions are presented in English!

The story suggests that humans have at last discovered civilisation in a distant galaxy. A good-will expedition has been launched to establish contact and develop cordial relations but, alas, the aliens have other plans! Their intention is to intercept the human spaceship, replace the crew with alien clones and send it back on a mission to annihilate Earth. However, they have overlooked one small factor - Humanoid (yep, that's you!). It's just possible that you can escape from the alien labyrinth of underground caverns, return to Earth and warn of the threatened invasion.

Convinced by this tale or not, all you really need to know is that this is a horizontally scrolling shoot 'em up and your job is to shoot everything that moves, as well as some things that don't. The lower part of the screen displays an indication of remaining lives, the score and the current level, whilst the upper portion reveals the hazardous underground complex. The use of colour, detail and shading here is simply superb. Joystick control is quite responsive and bullet effects are well done. As well as innumerable nasties you will come across temporary force fields that are disabled by shooting nearby switches, and walls that must be blasted before you can pass. You have to be quick though - you can't interrupt the constant scroll. Eventually you are informed of success in the current section and your progress to the following level. Before you sample the next batch of graphical delights, you participate in a bonus round where you could win an extra life. If you hit fixed objects or aliens at any time a ship is lost, and if there are no reserves the game ends with a statistical review of your achievements.

Bad points? I certainly can't criticise the scenery, though the aliens might have been treated to a little more animation. The lack of a pause mode is slightly annoying, and I don't know why the 'continue on current level' feature is restricted to ten seconds following your defeat. Okay, I'm being picky. Humanoid is an excellent game and all shoot 'em up addicts will love it!

Title:	***HUMANOID***
Publisher:	***Sonix***
Supplier:	***Micro Discount***
Format:	***Disk***
Price:	***£5.95***
Reviewer:	***Paul Rixon***

THE ACCESSORY SHOP
ISSUE 68

SUMMER SALE!
ALL THESE ROMS at £5 each or any THREE FOR £12!

ONE ON ONE

Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, hot streaks, a shot clock, even instant replay and a shattering backboard! Like the game of basketball itself, One-on-One rewards you for playing with your head as well as your hands. Master the joystick moves, sharpen your timing and hone your reflexes. Jump! Shoot! Score!

ROM CARTRIDGE
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The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

ROM CARTRIDGE
SALE PRICE £5.00
or mix any three for £12!

US FOOTBALL

American Football is a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron

ROM CARTRIDGE
SALE PRICE £5.00
or mix any three for £12!

FIGHT NIGHT

Fight Night brings you all the thrills of the boxing ring as you face five of the most brutal fighters ever. Its five separate battles are total war with relentless action. The Boxing Constructor Set allows you and your opponent to create your own perfect boxers, selecting stamina, intellect and style. Train, spar and step into the ring to pit your perfect boxer against the computer or another opponent.

ROM CARTRIDGE
SALE PRICE £5.00
or mix any three for £12!

TENNIS

Forehands and backhands, driving approach shots, angled volleys, overhead smashes and tricky lobs - you've got all the strokes in Tennis! Plus a wicked serve that goes where you want it. Here's the action packed game that challenges you to play at your best. Play singles against the computer or another player or doubles against another player. Either way the action is fast and furious.

ROM CARTRIDGE
SALE PRICE £5.00
or mix any three for £12!

POLE POSITION

Everyone has heard of Pole Position, the racing game that inspired almost every racing game since. It may be the original and some other games may have added features but Pole Position still retains its challenge after many years. One of those games that has exactly the right balance of game play and graphics to make it a classic that will last forever. If it is not in your collection, make amends now!

ROM CARTRIDGE
SALE PRICE £5.00
or mix any three for £12!

HARDBALL

All the thrills of American baseball can be yours on a 'summer afternoon in the ballpark. Sit behind home plate, along the left field line, down the right field line or join the manager in the dugout. Look over the pitcher's shoulder as he throws the next ball. You control all the action of the batsmen, pitchers and fielders as you try and battle your way to the top of the league. An exciting game for one or two players.

ROM CARTRIDGE
SALE PRICE £5.00
or mix any three for £12!

ALL THESE ROM CARTRIDGES ARE BRAND NEW IN ORIGINAL BOXES AND MOST ARE SHRINK WRAPPED

CASSETTES £4 each or mix any THREE FOR £10!

SILICON DREAMS

Taking the role of Kim Kimberley you are a leading participant in the colonisation of Eden, a planet prepared for human habitation by an advance guard of intelligent robots who battle with the native and highly aggressive fauna. In this highly structured and realistic environment you must move your mind into the twenty-third century. Silicon Dreams is three excellent graphics adventures - SNOWBALL, RETURN TO EDEN and THE WORM IN PARADISE from the masters, Level 9

CASSETTE
SALE PRICE £4.00
or mix any three for £10!

DECISION IN THE DESERT

Take command at the Battle of El Alamein. You can lead either side in this accurate simulation from the creators of F-15 Strike Eagle

CASSETTE
SALE PRICE £4.00
or mix any three for £10!

LANCELOT

Level 9 recreate the time of wizards and the Knights of the Round Table in a three part adventure spanning the complete saga of the quest for the Holy Grail. Superbly researched and superbly written this text adventure is full of atmosphere and highly recommended.

CASSETTE
SALE PRICE £4.00
or mix any three for £10!

10- PRINT

Owners of the 1029 printerjust have to have this superb utility that enables program listings to be printed out with all the control characters (just as you see in New Atari User) as well as printing in any choice of font. Full instructions are included for you to print out your letters and other documents in any font you choose

CASSETTE
SALE PRICE £4.00
or mix any three for £10!

Summer Sale ...

ALL THESE CASSE

TRANSMUTER
A new kind of weapon. This sci-fi arcade game features excellent smooth scrolling, incredible terrain, vector graphics sections and subterranean caverns. Fast reactions and a cool nerve are a necessity. Music by David Whittaker

PROTECTOR
Assigned to Fort Rucker, the US Army Helicopter Training School based in the Nevada desert, your aim is to become the best chopper pilot this side of the Iron curtain. A real Protector! Your mission consists of a strategic battle of wits between yourself and either another pilot or a computer controlled RPV

REVENGE II
The Mutated 90 foot high, laser spitting death camels have rebelled against their captors the Zzyaxians and are out for revenge! All action, highly graphical shoot-em-up from Jeff Minter

KIKSTART
The ultimate off-road motorbike scramble simulator. Guide your rider carefully over the obstacles in this all action simulator for 1 player against the computer or 2 players against each other as well as the clock

ROGUE
You are the ROGUE. Your mission is to search the Dungeons of Doom for the Amulet of Yendor. In the dungeons you will find many things to aid the quest for the Amulet. You will also encounter fearsome monsters and fiendish traps that will challenge all your skills

DESPATCH RIDER
Join the growing band of street demons - those fearless horders who terrify the population of the big cities to get the parcels through. Plan your moves to make some money, but don't take too long - time is always short. Gain an instant macho rating and be a despatch rider with this all action simulation

180
What can we say? A great darts challenge. Eight opponents, digitised speech, two player option. live joystick control, full matchplay scoring, a sense of humour, superb playability, this one has it all!

UNIVERSAL HERO
Only seven seconds left to save the planet! Universal Hero has to save his skin and everybody else's by finding bits to repair a shuttle to get to a planet to pick up the spares to mend a space freighter which is out of control and about to blow him and his chances of getting back to earth to atoms.

INVASION
Mobilize your units and prepare for battle. This all action space conflict requires skill, strategy and tactics. You must destroy the weather control station in order to win the battle but every move you make the enemy will counter, and they're waiting for you to make just one fatal slip up

SIDEWINDER II
It is 27 years since the final battle of the war with the aliens. 27 years of peace have reigned in the Western Spiral Arm of the Galaxy. All this is about to change. Step aboard your craft and prepare to defend mankind in this all action space blast

HENRY'S HOUSE
Little Henry has shrunk. He must navigate his way through the royal household to find the cure. Avoiding all the obstacles in his path, from terrible toothbrushes, through pestiferous parrots and chefs chasing chickens, to a final encounter with the vicious vampire! Acknowledged by all reviewers as one of the best Atari games of all time

LOS ANGELES SWAT
Special Assignment. Rescue the hostages from the terrorist gangs holding out in West L.A. Clean up the streets. Blow away the bad guys and be a hero on network T.V.! Fail and you won't be coming back to watch it. All action joystick bending combat for those with the skill to survive!

GHOSTBUSTERS
Has anybody seen a ghost? Matter of fact yes they have! At this very moment hundreds of ghosts are making their way to the infamous spook central. Only you can save the world from a disaster of biblical proportions. So go and show 'em how you do it!

BOMB FUSION
A terrorist gang has planted bombs throughout the Sellerscale Nuclear Processing Plant and you, as ex super hero (ex after the 'Boris Affair') have to go in and save the plant and possibly the Northern Hemisphere from destruction

SPEED ZONE
Enter the Speedzone in a frantic defence against marauding alien forces. A survey ship sent into the area comes under attack. As an enemy vessel draws closer your "STARFIRE" class attack craft is launched

Regular price cassettes -

AZTEC CHALLENGE
At the ancient Mexican pyramid of Tenochtitlan the Aztec gods have demanded a human sacrifice. You are one of the chosen! Your only hope of escape is to survive a series of tests in which your agility and stamina are pushed to the limits. Over the centuries your race has developed amazing abilities in running, jumping and leaping - your only chance of surviving the epic Aztec challenge.

OUR PRICE £1.95

SIDEWINDER
The original Sidewinder has you flying the high-tech Sidewinder hunter-killer helicopter through spectacular underground caverns, past the enemy defences and [illegible] to your home base on the inhospitable surface. More great graphics from Zeppelin Games

SOLD OUT

OUR PRICE £1.95

MAD JAX
Someone has been lobbing shells into your nice, cosy little domed city threatening to force the population out into the radioactive wastelands outside. Take up the fast action as you race your heavily armed buggy through the enemy defences. Fight off their forces and survive or your city dies with you.

OUR PRICE £1.95

POGOTRON
You have been stranded on a hostile planet, alone, except for the 'turbo-pogo', the only means of transport. You have the plans for a space ship and the search is on to find the equipment and then build the space ship to escape. The final danger is the Guardian who must be destroyed before you can be free.

OUR PRICE £1.95

TTES at 50p each!

NINJA

Blasts the belt off all other martial arts games! That's all it says on the inlay! Someone sure reckons this is the best punching, kicking, ducking and diving game around

ROCKFORD

The only true arcade version of the classic game Boulderdash. There are four levels on each of five different worlds with four screens on each level. It all adds up to eighty totally different playing screens.

INCLUDES FREE GAME - CRYSTAL RAIDER

MILK RACE

Cycling 1,000 miles is no mean feat - and you could end up feeling pretty exhausted by the time you've finished playing this superb race simulation designed especially in conjunction with the Milk Race

GUN LAW

Four months of bloody alien attacks have taken their toll - all the surviving inhabitants have fled and arson attacks have been made on your weapon stores, they destroyed what you could not carry away. You are left to fight alone against ruthless and bloodthirsty killers with just a single machine gun

FEUD

To win at Feud you must "out-spell" your rival Wizard Leanoric. In Kieke's herb garden you will find the ingredients for your spells but tread carefully as strange things can happen in this game of magic and mystery

PANTHER

Save the last humans on Xenon before the alien hordes turn them into Sunday roast! Take your ground attack ship through this 3D scrolling mega shoot-em-up with great graphics and unbelievable soundtrack

CRYSTAL RAIDER

Solve the problems and collect the crystals. Fifty fiendish fatal patterns to be solved! Hours of mind and joystick bending entertainment for those who like their games to infuriate the parts other software cannot reach! Not really an arcade adventure but a series of logic problems to tax you all the way.

PENGON

Can you save Penguin Willy from the ferocious mutant sea lions? Stun them by knocking them against the walls or crush them to a horrifying death with sliding ice blocks. High speed arcade action game, full colour graphics and music.

TWILIGHT WORLD

Enter the Twilight World. Equipped with the latest in anti-gravity pods and Laser weaponry, battle your way through each of the eleven dungeons defeating their fiendishly devious inhabitants along the way. A game from Atari themselves!

STAR RAIDERS

Battle against the the Zylon empire in your star ship in what is probably the most famous computer game ever. This full version of the classic game is now available on cassette complete with full instructions. Can you afford to be without the program that people bought an Atari for?

MICRO RHYTHM

Microrhythm converts your computer into a programmable drum system. All of the realistic drum sounds were digitised using the Replay sampling system and eight drum sounds can be arranged in 29 different drum patterns. Annoy the neighbours without buying a drum kit!

KNOCKOUT BOXING

Challenge for the Heavyweight Championship of the World by boxing your way past nine progressively more skilful opponents. You will need speed and skill to deliver body weakening stomach punches, points scoring head jabs or deadly upper cuts. Your must keep your guard up or the referee will count you out.

MR DIG

An old favourite in which Mr Dig has to dig for hidden food supplies in the 'Meanie' territory below ground. As he digs he can eat cherries or crush the Meanies with apples. Special treats earn extra points and a Magic Power Orb can kill all the Meanies.

ON CUE

Control that cue ball! A challenging real life simulation which combines Pool and Snooker on the same cassette. An absolute must for both enthusiasts and beginners alike. If you have ever wanted to be at the Crucible taking part in the World Championships, now's your chance to practice.

FOOTBALL MANAGER

Manage the team of your choice. Features include Transfer Market; full League tables; injuries; save game facility; promotion and relegation; FA Cup matches; managerial rating; 4 divisions; as many seasons and you like; pick your team for each match and seven skill levels.-

very limited supply

STRATOSPHERE

It's five years on, the battle for human life has been successful but only to a point. The remnants of the alien force still menace Earth and it's your task to destroy them once and for all. Some really excellent graphics add spice to this space shoot 'em up.

OUR PRICE £1.95

WAXWORKS

You are alone in the leisure lounge of a deserted waxworks. As events aound you take on ominous overtones you begin to wonder if you are dreaming. Beware though because in such macabre surroundings, dreams end and nightmares begin. A text adventure in the classic mould.

OUR PRICE £1.95

SPACE WARS

Hideous aliens, ground bases bristling with guns, fiendish flying fo[illegible] as[illegible] th[illegible] k[illegible] yo[illegible] to[illegible] 've[illegible] a sh[illegible] in[illegible] play-a[illegible] a m[illegible] any serious game player. Be warned, it's not for wimps. Be good or be gone!

SOLD OUT

OUR PRICE £1.95

DAWN RAIDER

Fly your heavily armed helicopter gun-ship into the fortified complex of the super criminal that is holding the world to ransom with his nuclear armed rockets. Guide your gun-ship through the great underground cavern, shooting and bombing the defence systems to stop the destruction of the world's cities.

OUR PRICE £1.95

Summer Sale ...

DISKS

£4 each
or mix any THREE FOR £10!

SILICON DREAMS

Taking the role of Kim Kimberley you are a leading participant in the colonisation of Eden, a planet prepared for human habitation by an advance guard of intelligent robots who battle with the native and highly aggressive fauna. In this highly structured and realistic environment you must move your mind into the twenty-third century. Silicon Dreams is three excellent graphics adventures - SNOWBALL, RETURN TO EDEN and THE WORM IN PARADISE from the masters, Level 9

DISK
SALE PRICE £4.00
or mix any three for £10!

PANZER GRENADIERS

In this exciting solitaire wargame you make the decisions for a regiment of the elite armoured infantry attached to the Panzer Grenadiers. Your forces also include mortar, artillery, Panzer IV, Panther and Tiger units. The Russian enemy is directed by the computer which will fiercely challenge you with its own complement of infantry, tanks and anti-tank guns. Three levels of difficulty, joystick control, hi-res graphics.

DISK
SALE PRICE £4.00
or mix any three for £10!

LANCELOT

Level 9 recreate the time of wizards and the Knights of the Round Table in a three part adventure spanning the complete saga of the quest for the Holy Grail. Superbly researched and superbly written this text adventure is full of atmosphere and highly recommended.

DISK
SALE PRICE £4.00
or mix any three for £10!

JINXTER

Just when a man thinks his luck is running out things start getting even worse. He gets run over by a bus. Sprayed with cheese sandwich by a supernatural being. Smashed against a tunnel by a speeding train. He falls from two thousand feet into an artificial waterfall. He gets drunk, drowned and cursed. He gets incinerated, widdled on, folded, bent, spindled, mutilated and generally mucked about. There is no doubting that this is different. Isn't it about time you tried something completely different? A high class graphics adventure from Magnetic Scrolls. Requires 1050 drive

DISK
SALE PRICE £4.00
or mix any three for £10!

DISKS

£3 each
or mix any THREE FOR £7.50!

NEW YORK CITY

Welcome to The Big Apple. This hurried jungle of steel, concrete and glass bristles with fascinating sights and more than its share of danger. From the placid greenery of Central Park, there is no city in the world like New York, and boy are you about to find that out! As a visiting tourist you only have a limited time to see all the sights, but New York City has a little more excitement, a little more danger in store than a mere sightseeing trip to the zoo!

DISK
SALE PRICE £3.00
or mix any three for £7.50!

RAMPAGE

It's rough and tumble all the way as you control three incredibly nasty characters which bear a remarkable resemblance to King Kong, Godzilla and Wolf-man through an orgy of destruction in Chicago, New York and San Francisco. You have 150 days of destruction in 50 different cities. Time for some revenge!

DISK
SALE PRICE £3.00
or mix any three for £7.50!

THE E FACTOR

The E factor represents the amount of time the energy sources on the planets in our galaxy will last. Many planets need emergency fuel capsules delivered if they are to survive. You must plot the interplanetary course and guide your craft through the quadrants filled with obstacles such as space mines, alien fighters and spinning asteroids. Can you complete a mission and deliver your energy crystal before another planet calls on your services?

DISK
SALE PRICE £3.00
or mix any three for £7.50!

DRUID

Another classic in which, as Last of the Great Druids, you wander through the Dungeons of Acamantor with your mighty Golem by your side on a quest to destroy the four demon princes. As you delve deeper into the dungeons you will find chests containing spells of formidable power to aid you and Pentograms of Life which will heal and revitalise you. Excellent graphics and superb gameplay have made this one of the best arcade adventures on the Atari.

DISK
SALE PRICE £3.00
or mix any three for £7.50!

SCOOTER

Scooter needs your help to get through the eight levels of his enchanted building. Inventive traps and unusual gimmicks abound. Weird [illegible] heard from the new [illegible] and the construction [illegible] spooked. What could [illegible]? It's your job to move Scooter up through the eight levels to find the secret. But don't think it's going to be an easy task!

SOLD OUT

DISK
SALE PRICE £3.00
or mix any three for £7.50!

LASER HAWK

Your Laser Hawk helicopter is ready to go, but are you? To destroy the five command centres of the evil Proc Irata, your ship will have to outfly or blast away its incredible defence systems which include air cannons, smart missiles, falling [illegible] heat rays and high level bombers. Eye stunning graphics and unbelievable non-stop action make this game a winner!

SOLD OUT

DISK
SALE PRICE £3.00
or mix any three for £7.50!

BALLBLAZER

The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

DISK
SALE PRICE £3.00
or mix any three for £7.50!

JUNO FIRST

A fast and furious space shoot 'em up translated from Konami's early arcade machine of the same name. Dozens of alien craft will attack from all sides and you must be quick to blast them away and earn your bonuses. If you feel that you are going to die then you can take the last resort and warp away through a kaleidoscope of colour. Similar to invaders, this fast shoot 'em up will appeal to any arcade game fanatic.

DISK
SALE PRICE £3.00
or mix any three for £7.50!

Summer Sale ...

DISKS £2 each or mix any THREE FOR £5.00!

TRIVIAL PURSUIT

The classic board game translated to the Atari with added question power. Now you can answer questions presented with music and graphics as well as straight text. An ideal family game or one you can play on your own. Over 3,000 questions and all the mechanics of the game taken care of by the computer. Trivia has never been so much fun and has never been available before at this price!

DISK
SALE PRICE £2.00
or mix any three for £5!

BLUE MAX

Everyone must have heard of this World War Two 3-D flying game. We no longer have the ROM cartridge but this classic can be yours on disk dirt cheap!

DISK
SALE PRICE £2.00
or mix any three for £5!

ZORK 1

The Infocom classic and the adventure game that changed the way all future adventures were written. The Great Underground Empire of Zork is well documented by now and thousands of players have become addicts graduating to Infocom's more difficult adventures. Zork I is the ideal introductory level adventure for beginners or those with a little experience. If you have never ventured underground before now is the time to try, it's never been cheaper to expand your universe! Classic original Infocom packaging with excellent manual and a map.

DISK
SALE PRICE £2.00
or mix any three for £5!

JUGGLES RAINBOW

A first computer experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition allowing children to enjoy learning with colours and music and games they can create and play themselves

DISK
SALE PRICE £2.00
or mix any three for £5!

GAUNTLET THE DEEPER DUNGEONS

If you have the original Gauntlet disk then you will know how good the game is and will want to extend play with the Deeper Dungeons. Over 500 new dungeons are here for you to explore. This is the way to revive your interest in Gauntlet and play on for many more hours or days! This is a data disk only and requires the original Gauntlet disk.

DISK
SALE PRICE £2.00
or mix any three for £5!

THE LIVING DAYLIGHTS

Control James Bond through eight fast and furious levels from Gibraltar to Afghanistan and you will encounter the SAS (friendly), the KGB (not so friendly) and enemy helicopters (very unfriendly!). Your are up against Brad Whittaker, international arms dealer and megalomaniac, Necros, his ruthless sidekick killer and Koshkov, the double dealing KGB General. You may fall in love with the beautiful Czech cellist Kara, but can you trust her?

DISK
SALE PRICE £2.00
or mix any three for £5!

VOODOO CASTLE

SOLD OUT

The Count of Monte Christo reposes in a coffin in his musty castle awaiting an able assist from [illegible] to remove the curse that binds him [illegible]. Is he down for the count for good or can [illegible]? Gather your rabbit's foot, arcane charms and courage and be prepared to step through the portal of Voodoo Castle. A moderate level graphics adventure from Scott Adams

DISK
SALE PRICE £2.00
or mix any three for £5!

PIRATE ADVENTURE

SOLD OUT

"Yo, ho, ho and a bottle of rum". You'll meet up with the pirate and his daffy bird along with many [illegible] as you attempt to go from your London [illegible] to Trea[illegible] Island. Can you recover [illegible] Silver's [illegible] treasures? Happy sailing mate. Scott Adams Graphic Adventure #2 brings you a superb Beginner's level adventure complete with graphics and ideal for all ages

DISK
SALE PRICE £2.00
or mix any three for £5!

CASSETTES £2 each or mix any THREE FOR £5!

BATTALION COMMANDER

An exciting real-time tactical game with you as lieutenant colonel in charge of an entire armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

CASSETTE
SALE PRICE £2.00
or mix any three for £5!

COLOSSUS CHESS 4

Claims to be the best chess program of all. The writers of Sargon III would disagree, but there is no doubt this is a fine chess simulation particularly for advanced players

CASSETTE
SALE PRICE £2.00
or mix any three for £5!

CROSSFIRE

You are alone in a deserted city surrounded by aliens who shoot lasers from every direction. Your movements are confined but you haven't given up. If you are to survive you'll have to concentrate on where the shots are coming from otherwise you'll be caught in the CROSSFIRE. One of those fairly simple yet highly addictive games.

CASSETTE
SALE PRICE £2.00
or mix any three for £5!

SPEED HAWK

One of Atari's last games for the 8-bit. A smoothly scrolling arcade game in which you must defend the ring worlds of your solar system from space pirates. You alone can pilot the single seater fighter to undertake the task of destroying the mutant guardian that protects the fleet of pirate ships waiting to attack

CASSETTE
SALE PRICE £2.00
or mix any three for £5!

Summer Sale ...

MIXED BAG

Various bargain prices

TAIL OF BETA LYRAE

Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music." A great horizontal scroller

CASSETTE

SALE PRICE 50p!

NIBBLER

Slinking through an unknown land Nibbler finds himself in an iridescent world of constant change. As time grows short his body grows longer and he risks running into himself. Can he survive?

DISK

SALE PRICE £1.00

SUPER BREAKOUT

Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Needs paddles.

ROM

SALE PRICE £2.00

MAXWELL'S DEMON

A simple yet challenging puzzle game which will get you totally addicted. In fact two games in one for double the fun

DISK

SALE PRICE £1.00

INVITATION TO PROGRAMMING 2

Entitled Writing Your Own Programs, comprises TWO cassettes and TWO workbooks and does not require Invitation To Programming 1.

CASSETTE

SALE PRICE £2.00

BASIC CARTRIDGE

Some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic.

ROM

SALE PRICE £1.00

COLOSSUS CHESS 4

Claims to be the best chess program of all. The writers of Sargon III would disagree, but there is no doub this is a fine chess simulation particularly for advanced players

CASSETTE

SALE PRICE £2.00

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CASSETTE

SALE PRICE £2.00

Regular price items

GAMES

ZAXXON

One of the all time classics for the Atari, Zaxxon set new standards with its unique 3 dimensional battlefield and great graphics

DISK/CASS **OUR PRICE £2.95**

EASTERN FRONT (1941)

The classic war simulation by Chris Crawford that astounded Atari users when it was released. Based on Operation Barbarossa on the border of Russia.

ROM **OUR PRICE £6.95**

MR ROBOT & HIS ROBOT FACTORY

One of the most famous platform games that has you running and jumping over everything in sight. A really classy game

DISK **OUR PRICE £1.95**

BASKETBALL

SOLD OUT

The original basketball game gets back to basics but, like the [illegible] version, has lots of fun. You can dribble, shoot, pass, block shots and even make steals. Five different game variations allow up to four players to compete on the 400/800 and two on the XL/XE. Sometimes, like the early games, simple graphics can mean addictive play and a lot of fun!

ROM **OUR PRICE £4.00!**

OGRE

Challenge the Ogre, a cybernetic supertank programmed to coldly annihilate anything in its path. Set on 21st century battlefields, this game of strategy is for either one or two players. Conventional forces such as nuclear-armed tanks, speed vehicles, howitzers and infantry must be skilfully deployed to defend a command post. The composition and placement of units is critical in destroying the Ogre which has multiple weapon systems and thick armour plating. Ogre is an adaptation of a well-respected board game. A game editor is included.

SOLD OUT

DISK **OUR PRICE £6.95**

BATTALION COMMANDER

SOLD OUT

An exciting real-time tactical game with you as lieutenant colonel in charge of an armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

DISK **OUR PRICE £5.95**

MIG ALLEY ACE

An aerial combat simulation set in Korea with 3D graphics, cockpit instrumentation, different skill levels and much more

DISK **OUR PRICE £6.95**

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FOR SALE

CLASSIC ATARI SETUP: 800XL (Rev. C), 1050 Disk Drive c/w original software/manuals, power packs and dustcover. Centronics printer interface with cable. Utility software inc. Mini Office II. £100 o.n.o.; Magazines: Atari User Vol. 1 No. 1 to Vol. 1 No. 5 (41); Page 6/New Atari User issues 44 to 67 (24); issues 45 to 56 with cover disks. £45 o.n.o.; Books: Tech Ref Notes, £10; Mapping The Atari, £5; Field Service Manual, £3; 130XE Ref. Manual, £3; The Atari 130XE Handbook, £2; EPSON FX 80 dot matrix printer c/w stand, dustcover and paper. £80 o.n.o. Will consider genuine offers for the lot providing buyer pays carriage. Contact Mr. R. Hoe, 2 St. Marks Close, Worcester WR5 3DJ. Tel. (0905) 351594

800XL SYSTEM: 800XL, 1050 Disk Drive, 1010 Recorder (may need attention). Software consists of Fields of Fire, Leaderboard, Trivial Pursuit, Silicon Dreams, Zork 1, Deadline, Eastern Front, The Pay Off and various other Atari User disks. £75 for the lot!. May be able to deliver in Yorkshire or the North East. Call Eric Watson on 0609-778761

XL SYSTEM: 800XL plus 1050 drive fitted with US Doubler, 200+ disks, joysticks and all cables. £120 o.n.o. Buyer pays postage. Spike Donald 0875 820868

ST & XL SYSTEMS: Atari STFM 1 Meg, Philips colour monitor, Epson FX105 wide carriage printer, 400 disks, books and manuals, £250 o.n.o.; Atari 130XE with Omnimon, 1050 disk drive with Happy/Doubler, Miracle 2000 modem, 850 interface, 1020 printer/plotter, hundreds of disks, books and manuals, £250 o.n.o.; Atari 800XL with Omnimon, 810 drive, 1010 recorder, cassette games, joystick, £85. Buyer collects or pays postage. Phone George on 021-772-7790 (Birmingham)

VARIOUS: Phonemark cassette deck for only £10; 1029 printer boxed as new with 10-Print and word processor inc., £50 plus p&p. Lots of cassette software, some pretty rare ones included, also some disk software all original with docs and boxes. S.A.E. for lists. H. Ewer, 30 Framfield Road, London N5 1UU. Tel. 081-801-2969 evenings

TAPES: Atari User tapes for sale, 60+ including ROMS. Send S.A.E. to David, 89 Cobbold Road, Leytonstone E11 3NS

XL SYSTEM: 800XL, 1050 disk drive, 1010 tape deck, original boxes, as new. 25+ tapes inc. Transdisk IV with instructions, DOS 2.5, 3 Atari Users, Page 6's, programming books, joysticks and manuals, all as new, £120 o.n.o. Buyer collects or pays postage. Tel. (0602) 720597

PRINTER: 1027 printer (letter quality) without ink reservoir and with unknown fault (gives error 138). For sale for spares or repair. Buyer collects. Offers? Tel. (0892) 549780. Answerphone, I'll call back.

ST SPARES: All tested: ST/STFM - keyboard keys, ports, motherboard (520), case, PSU, shielding. STFM - keyboards, keys, ports, 2 x motherboards (with unknown faults), cases, PSU's, shielding. PC style internal drive DD 3.5". Components from motherboards available separately if required - BLITTER, MMU chip, video shifters and blue chips, TOS chips (2 chip sets, also German version!). Ring for details. I'm rarely in, so please leave your name and number on my answerphone so I can call you. Tel. (0892) 549780

XL SYSTEMS: Two 800XL's, two 1050 disk drives, 1029 printer, 1010 tape deck, manuals, leads, magazines, disk and cassette software included. £200, may split. Phone Phil on 0744 820122

COMPLETE SYSTEMS: Two complete XE systems with loads of software, books, mags and loads more, too much to list. Available for £150 (plus p&p) as a complete package or in separate units. For full details ring Graham on 081-942-8515 weekends or after 7pm. New Malden, Surrey

1029 PRINTER: In good condition and with new ribbon and some software - Tricky Print (allows Print Shop to be used), a disk of 1029 printer utilities and Page 6 Writer. A bargain at £50 ex. p&p. For details ring Exeter (0392) 431192 and ask for Kevin

DISKS: Offered to Page 6 readers for the price of postage. Movie Maker 48k complete with two disk set & manual; Video Title Shop 64k complete set & manual; Turbo Basic and Support 1; Digidrum 2 & Replay 400/800/130XE; Mercenary & Second City; Star Raiders 2; Pokey Player & Manual. Please write to S Beauchamp 1 Gosden Close, Furnace Green, Crawley, West Sussex RH10 6SE

XE SYSTEM: 130XE with Omnimon, 1050 drive with Happy and Doubler, 1010 Tape deck and various tapes, Mapping The Atari, Compute!'s Machine Language, De Re Atari, joysticks, all cables etc. Also 250+ disks. £150 o.n.o. Buyer pays postage. Spike Donald 0875 820868 (Scotland)

XL SYSTEM: 800XL with 1050 disk drive, £85. Tel. Hinckley 0455 230696

HARDWARE: Atari 1050 drive fitted with US Doubler, inc. Timewise, £90; Atari 1029 printer, £45; Power Computing 40Mb slimline hard drive for ST, £150. Jim Moylan, 4 Kenilworth Close, Wordsley, DY8 5HW. Tel. 0384 400503

XL SYSTEM: 800XL with Omnimon machine code monitor chip fitted, 1050 drive fitted with Happy (lazer) enhancement for double density complete with over 100 games & utilities on disk, also cassette data recorder and another 70+ games on tape and various other extras - £90 o.n.o. complete or may split. Phone Leeds 0532 585498

CLEAROUT: 130XE, 800 48k, Star printer + cable, 1050 + Happy, ACTION! cart, De Re Atari, O.S. Notes, Antic/Analog/Page 6 mags, games on cart, disk and cassette plus lots more not listed. Send SAE to M Clover, Manhattan Building, Fairfield Road, Bow, London E3 2UG for full list

BOOK/INTERFACE: Mapping The Atari (Revised edition) in good condition, £10; Micro Print Parallel Printer Interface (as new), £20. Bill Jackson, 68 Martin Street, Buckhaven, Leven, Fife KY8 1EP. Tel. 0592 716176

XL SYSTEM: 800XL (64k), 1010 cassette (no I/O cable), all power packs, joystick, Miner 2049er, Invitation to Programming 1 and Spy Hunter on cassette. All in excellent condition and working. Only £20.00 inc. p&p. Tel. Exeter (0392) 431192 and ask for Kevin (may split)

SOFTWARE/BOOKS: For XL/XE - 32 disks, 62 cassettes, 5 cartridges, all originals and boxed, £45 o.n.o.; Also books/manuals - Atari Technical Reference Guide, £15; De Re Atari, £12; Inside Atari Basic, £3; Basic Reference Manual, £4; Games paddles and spare power supply for 800XL, £4 each. Will accept £75 for the lot. Ring (0602) 821879 for details

XL SYSTEM: 800XL, 1050 disk drive, 1010 data recorder, all manuals, Mapping The Atari, software inc. Koronis Rift, Flight Sim 2, Hacker, Hitchhikers Guide, Alternative Reality and lots more. On offer to a good and faithful 8-bit user for £130. Tel. Jamie on 051-639-1141

GAMES: 35 originals, old and new on cassette. All different and in good condition, £45 inc. postage. May split. Phone Jason on 0778 426409 after 6pm

DISK DRIVE: 1050 drive with Spartados and fitted with US Doubler, £49. Tel. 0625 420782

XL SYSTEM: 800XL wordprocessing system with keyboard, 2 x 1010 recorders, 1027 printer, all original leads and manuals and Atariwriter on cartridge. Also various games and utilities on cartridge and cassette. Little used. £100 o.n.o. Tel. (0902) 25786 evenings and weekends

TWO XL 800 SYSTEMS: inc. two 1050 disk drives, one 1010 tape (not all keys), Graphix printer interface, Epson RX80 and Modem Interface. 12 cartridges inc. Shamus and LOGO full manual set, 100's of disk games with manuals. £200 o.n.o. Tel. (0689) 853281 or 810502

HARDWARE: Atari 800 (48k), 810 drive and 410 recorder, £75 plus £15 p&p; 65XE with 1050 disk drive and XC12 recorder, £90 plus £12 p&p; 850 interface with manual, £35 plus £5 p&p; All hardware with PSUs. Some software for sale, mainly PD disks and some ROMs and cassettes. Contact Dennis Heard-White on 0273 540661 or write to 34 Mayfield Crescent, Brighton BN1 8HQ

VARIOUS: Over 50 tapes, old, new and rare between 50p and £2; disks, ROMS; send SAE for list and prices. Hardware - 65XE with XC12, powerpack, Atari joystick and lead to TV, £35 (inc. p&p). Or this system with all the cassettes (53 in total) for £75 PLUS p&p, buyer to collect from Brighton or add £10 if you wish me to Parcel-post it to you. Also small 2600 console (TV lead only) £5.50 inc. postage. Tel. Brighton (0273) 883630 or write to D. Baverstock, 199 Mackie Avenue, Patcham, Brighton, E. Sussex BN1 8SE

RECORDERS & ROMS: XC12 datacorder, £10 inc. p&p; Phonemark datacorder (no rewind), £3 inc. p&p; various ROM cartridges and large selection of cassettes (no copies) most in original cases with instructions. Phone 0268 287202 for list (Essex)

WANTED

ATARI 1027 PRINTER: Letter Quality printer, mine is deceased (see For Sale!). I'd like to get another one (only if it's cheap!). Derek (0892) 549780

STAR WARS: Star Wars from Domark on disk. Ready to swap with originals, disk or cartridges. Write to me, I will answer you. Berthault, Pierre Andre, 9 Rue De La Tour, 75116 Paris, France.

TOUCH TABLET: Touch Tablet with Atari Artist ROM, must be reasonable condition with protective sheet intact and all sensors functioning. Derek (0892) 549780

WANTED: Audio cassette tape which compliments Dr. Gruneberg's Spanish Linkword System tutorial diskette. Would very much appreciate a loan of same or will purchase or swap 8-bit or 16-bit PD software. If you have other types of Spanish educational programs suitable for the 8-bit, ST (or dare I mention the Amiga), please write to Chas Smith, 93 Preachers Lane, Oxford OX1 1RT

SHANGHAI: Also the disk that allows Atari Artist to be used with a mouse. If you have either, or both, of these ring Exeter (0392) 431192 ask for Kevin. Good price paid.

HARD DRIVE INTERFACE: For the 8-bit such as Black Box or Multi I/O. Also Atari Classics magazine Vol. 2. No. 3. Please call Chris Davis on 0933 624912

ST TRANSFER: Could someone help me get an 850 interface or TariTalk as I want to transfer programs from my 800XL to my 1040ST. I would even consider hiring and returning the equipment when I have finished. P. Shales, 1 Linley Grove, Alsager, Stoke-on-Trent, ST7 2PR. Tel. 0270 883949 after 5.30pm

BOXES: I am a collector of obscure software (mostly American) and would like original boxes (with or without software) for a large number of American and English publishers. Top prices paid on certain items. Please write for details of my requirements. Bertrand Mouchmino, 1 Rue Lyautey, 92 340 Bourg-la- Reine, France

COLOUR MONITOR: Has anyone got a spare Atari Colour Monitor (for an 800XL) which I can acquire at a reasonable price? Please write to John Pritchard, 28 Maidstone Road, Borough Green, Kent TN15 8BD. Can collect in South-Eastern region.

MANUALS: Wanted, instruction books for Saisho Relay 300 cordless telephone and GEC T1033 Speakerphone. Photocopies acceptable. Will pay any costs. Phone Harry on 0787 473136

1050 SPARES: 1050 case parts wanted to complete disk drive renovations, particularly the dark brown front plastic unit. Also interested in power supply or SIO leads. Phone Macclesfield (0625) 420782

SOFTWARE: Wanted Karateka on ORIGINAL ROM or disk in good condition for a reasonable price, Winter Olympiad '88 by Tynesoft, Into The Eagles Nest on ROM or disk, Diamond GOS desktop from Reevesoft on ROM in great condition with manual. Tel. Brighton (0273) 883630 or write to D. Baverstock, 199 Mackie Avenue, Patcham, Brighton, E. Sussex BN1 8SE

PEN PALS/HELP

ATARI 8-BIT BBS: The Land That Time Forgot. Online every day from 8pm till midnight. All speeds from 300 to 2400 inc. 1200/75. Eight data, no parity, 1 stop bit (8N1). Now networking with Europe and USA. Give us a call on 081-960-1605

CALLING CHRIS: Chris from Raunds please contact Dave Carney (ex Comet service, Northampton) at 12, Matlock Way, Desborough, Northants NN14 2UR.

TEN-PRINT: Help or instructions still needed for Ten-Print on cassette. I'm not bothered whether it's an original or a copy, I just need some instructions. I will pay for postage etc. Write to Denham Phipps, 511 Harrogate Road, Eccleshill, Bradford, West Yorkshire BD10 0EP

HELP!: I've bought a s/h 850 interface with no manual. I want to make a RS232 lead to connect it to my ST. I've tried an old Page 6 letter's pinout but with no success. Derek (0892) 549780 (Answerphone)

CONTACTS: Programmer and long time user seeks Atari XL, XE and ST contacts to swap code and hints, tips etc. Spike Donald, 55 Carlowrie Place, Gorebridge, Midlothian EH23 4XP, Scotland. Tel. 0875 820868

GAMES: 35 originals, old and new on cassette. All different and in good condition, £45 inc. postage. May split. Phone Jason on 0778 426409 after 6pm

PENPALS: Wanted Atari 8-bit penpals with disk drive. I own a 320k 130XE, 1050 Happy and approx. 400 disks. I like arcade games and adventures such as Alternate Reality. I am 23 and have been on the 8-bit scene since 1982 (on and off - but now full time!!). Contact Mr A. Groves, 197 Church Road, Redfield, Bristol BS5 9HG

CONTACT CLASSIFIEDS

Contact is open to any Atari owner or interested party whether they subscribe to New Atari User or not. From the next issue a charge will be introduced for the use of the contact column as follows:

FOR SALE	Subscribers	£2 per entry
	Non-subscribers	£3 per entry
WANTED	All readers	£1 per entry
PEN PALS/HELP		Free of charge

Notices must be kept to a reasonable length and long listings of individual items of software will not be accepted. Page 6 reserves the right to refuse entries or to edit or amend entries which are too long. Cheques or postal orders should be made payable to Page 6 and the notice should be sent to:

CONTACT, New Atari User, P.O. Box 54, Stafford, ST16 1DR

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

HARD DRIVIN'

Scott Durose Brindley brings you the sequel to his article for new owners of a hard drive. Wondering what to do next with this box humming with super power? Read on.

HEY, THAT DESKTOP'S BORING!

The instructions with your drive software should tell you how to install the icons for the various partitions on your hard drive. If it doesn't the procedure is to simply highlight the icon for Drive C: which will appear when you boot up the drive, select Install Disk Drive, change the drive letter to D: and click on Install. Repeat this for however many partitions you have.

So, everything looks okay and normal. Lets have some fun and modify the desktop. First, the hard drive icons can be renamed to make locating files easier. Starting with 'Drive C', click on the icon so that it turns black. Select Install Disk Drive from the options menu and an alert box will be displayed with the information of that drive. As 'C' is usually the boot drive change its name from Hard Disk to either Boot Disk or Boot Drive, then press RETURN. Hey Presto! You have renamed an icon. If you have more hard drive icons repeat this process for each one and label them according how they are to be used. On my 40mb hard drive I have three partitions, Boot Disk, Graphix and Utilities. Now you can arrange the icons on the desktop by dragging them round the screen to where you want them.

WHAT RESOLUTION?

We have renamed and positioned the icons, but what about the screen resolution? If you have a mono monitor this question has already been answered but with a colour system you have two choices, low or medium resolution. Unless, of course, you have a STE with TOS 1.6 fitted which refuses to boot in medium resolution without the aid of a small patch program. As a rule of thumb, if you use your ST for a variety of tasks I would say, from experience, boot up in low resolution.

SAVING THE DESKTOP

After some experimenting on the layout of desktop you can save it by selecting Save Desktop from the options menu. A file called DESKTOP. INF will be created on your boot disk. If you want to change the name of the Trash Can you can load DESKTOP.INF into a word processor or text editor. Where you see the words 'Trash Can' appear, change them to something appropriate and save the file back under its original name. When you reboot the computer, the Trash Can will have a new name.

DESKTOP ACCESSORIES

These are mini programs that are loaded into the ST's memory and run independently from any other program loaded from the desktop providing a sort of limited multi-tasking system. Accessories are loaded on boot-up of your computer. Normally you are allowed to load six DA (Desktop Accessories) on a 512k machine, although there are programs which allow you to load more. The trouble with Desk Accessories is, the more you have, the less free memory you have. If you have been an ST owner for a while you have most probably built up a varied selection of these files by now.

Installing Desk Accessories is quite straightforward, just copy the file ending in the extender .ACC into the root directory of your boot disk. When you next reboot your ST the accessory will be installed. To select one first go to DESK and double click on the one you require.

WHAT ACCESSORIES DO I NEED?

This is a matter of your own choice and is only limited by your systems memory limitations. I can however, give you some ideas on which are the most useful.

CONTROL PANEL: Yes, the program that was supplied on the many disks you received with your computer. If you were lucky enough to afford a Mega ST/STE or TT030 you got something called **XCONTROL**. If you want a copy check out your favourite PD library (i.e. Page 6) who will undoubtedly have a copy. XCONTROL has its own modules called CPX's which, in essence, are Desk Accessories. The beauty of XCONTROL is that a CPX can be loaded/unloaded without having to reboot the computer. You can tailor your system by selecting the CPX you need. Another feature of XCONTROL is you can shut it down, thus freeing up more RAM for the system. If you scour the PD libraries you can some interesting CPX's ranging from games to text editors.

Part Deux

FREE RAM INDICATOR: The trouble with the GEM desktop is that it does not give you any indication of how much free RAM you have. When you turn your ST on, some of the operating system is copied from ROM into RAM. Regardless of how many Desk Accessories you have loaded, the system always takes up some memory. Knowing how memory you have free comes in handy when are creating large documents through DTP or WP. Whilst writing this document on my 1Mb STE I have 130k left, more than enough but an accessory can make the difference between using an extra font or importing a picture into your final document.

CLOCKS: If you have a clock in your hard drive or the Forget-Me-Not clock cartridge, a clock Desk Accessory is a useful addition. If you do not have either of those, the system clock can be set through control panel but, unfortunately, it has to be done each time you turn your ST on which can become a real chore.

Clocks come it all shapes and sizes which range from the analogue clock to a digital clock to the speaking clock. Wait there!!! Did I say a speaking clock? On the Falcon (you know, the new computer from the people who made your ST) there is speaking clock which belts out the time in a delightful female voice. There is an ST version but it takes up a lot of memory and sometimes clashes with other Desk Accessories so I would not recommend it.

VT52 EMULATOR AND CALCULATOR: These two Desk Accessories are worth only a brief mention as they were supplied with your computer. According to the ST's user manual "The VT52 Emulator is an industry standard telecommunications terminal program". It may have been back in the early days of the ST's design, but nowadays it is very dated. When you purchase a modem you usually get the comms software with it anyway. Failing that the are some good Public Domains programs that are more powerful than VT52. If you have not got a modem you will not need to use it.

The calculator, at first seems a good addition to your desktop environment. After all your ST is a number crunching machine with attitude. Apart from the one Atari supply, there are others which can do hex and binary addition. There is one small flaw in this - time. It takes a fair amount of time move the mouse pointer around the screen to select a digit. It far easier to use a pocket calculator!

MACHINE GUN: This is one of my all time favourites! It is not of any practical use except for getting rid of stress. It comes into its element when you have had hard day. Say you have been programming or word processing when you delete your work by mistake, or your printer runs out of ink when printing the last page of your document. Instead of hitting your computer, the cat or the dog, just select Machine Gun from the Desk Menu. You can shoot up your screen to your heart's content! It even makes gun noises and puts holes in your desktop too! Once your eyes have changed back to their normal colour from a glowing red, a quick click on the right mouse button and desktop returns to normal.

AUTO FOLDERS AND FILES

As you may be aware there are many bugs in TOS and these vary depending on what version you have. One of the famous ones in TOS 1.6 (STE) was mentioned earlier in this article. Other bugs limit the number of folders you can have. To fix these faults and to turbocharge your ST, you can place small programs into an Auto Folder on your boot disk.

How do these patch programs work as TOS is held in ROM?. Well, as stated previously, TOS is copied into RAM and when it is RAM Resident it can be edited to remove bugs from the system. Screen accelerators such as NVDI and WARP 9 rewrite sections of TOS to speed up screen redraws.

To install one of these programs, create a directory called 'AUTO' on your boot disk. Once this auto folder is established, just copy the relevant file to it. There may be other files associated with the program but these usually live in the root directory of your boot disk. A prime example is GDOS (Graphical Display Operating System), which has a file called ASSIGN.SYS.

Again there are a plethora of programs which take advantage of this powerful feature of the ST. What you use your computer for will guide you in yotr choice of program. If you are still using the standard ST mouse (let's face it, it does look good!) you have, at some time, suffered from arm ache after using it for a prolonged period. This is due to the mouse being less than 100 dpi (dots per inch) which means you move it a fair distance before the pointer on your screen actually moves. To combat this, the mouse accelerator was born. Even those 'boffins' at Atari wrote their own version called MACCEL. It is well worth getting hold of a copy. It will save you a few pounds on buying a new mouse (especially if you have just bought a hard drive).

There are two rather important points I would like to make regarding AUTO folders. Firstly when you copy files into your AUTO folder they are not executed as they appear in the window but run in the order they were copied into the AUTO folder. This can cause conflicts between programs and can may make your ST crash. The solution to this is to purchase some sort of boot manager software. There are many about, either commercial or PD. These allow you to select which programs you want to boot and in what order. They can also let you select what Desk Accessories and DESKTOP.INF files to load. One the whole a good investment.

The next point is, when installing auto-booting programs try them out first on a floppy disk and boot your system without the hard disk. This saves you the agony and torment of having your ST locking up and denying you access to the hard drive to remove the offending program. I speak from experience here! This happened to me within the first week. It is no fun repartitioning your hard drive and reloading over 20mb of data!

I hope you new hard drive users have found this of interest. Those who don't yet own a hard drive can benefit too, as much of this can be applied to a floppy based system. If you have any queries drop me a line via New Atari User.

Oh yeah! One last thing. Get hold of a virus killer. Viruses can do nasty things to your data!





THE BASICS OF MIDI

Welcome to the third instalment of our journey into the world of MIDI. So far we've covered the easier topics, but now the going is about to become a little tougher as we'll be exploring some of the more arcane aspects of the subject.

The MIDI messages we've encountered to date are given the overall classification of 'Channel Voice' messages. These include MIDI Note-On and Note-Off, Channel Pressure, Polyphonic Key Pressure, Program Change, Control Change, and Pitchbend Change. Their purpose is to provide a detailed level of control down at the individual MIDI channel level, affecting the sound of each 'voice' being played in various ways. There are also several other classes of message, as we'll see later in this and following articles.

CONTROLLING MIDI RECEPTION

Next up for consideration are the so-called 'Channel Mode' messages, whose function is to set a synthesiser to one of four possible reception modes. Each mode is a combination of certain operating characteristics, so let's examine these first.

OMNI is the name used to describe the 'listening' characteristic of a device, and governs whether it listens and reacts to all MIDI messages it receives or restricts its attention only to those for particular MIDI channels. '*Omni On*' means it actions all messages no matter what channel they're sent on. '*Omni Off*' means the device will react only to those messages on channels it has been set to receive on, and ignore the rest.

MONO results in the device only playing one note at a time - the reception of a second Note-On message causes the note triggered by a first Note-On to immediately stop playing and the second one to start. No intervening Note-Off message is required, useful for playing solo lines in a piece of music.

John S Davison's regular music guide

POLY is the alternative to Mono, allowing a device to play many notes simultaneously, i.e. chords. Each Note-On now needs a corresponding Note-Off to stop it sounding, otherwise it may play on forever.

MIDI MODES

Combinations of the above characteristics are used to define four MIDI operating modes as follows:

MODE-1 consists of '*Omni On/Poly*', which is usually the default mode for a MIDI instrument. It virtually guarantees you'll get a sound out of it when first connected into a MIDI system, as it responds to messages on all channels and can play many notes simultaneously. However, it's usually mono-timbral only so you'll have to switch to a different mode if you need several different simultaneous sounds.

MODE-2 embodies '*Omni On/Mono*', a little used mode which is said to have resulted from one of the participating manufacturers misinterpreting the requirements when the original MIDI specification was designed!
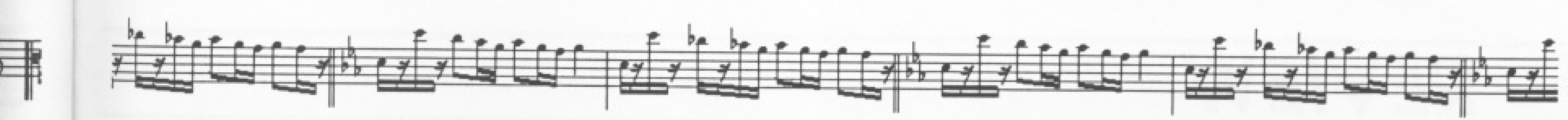
MODE-3 represents '*Omni Off/Poly*', allowing you to play multiple notes simultaneously on a specified channel.

MODE-4 embraces the '*Omni Off/Mono*' characteristics, permitting you to play several monophonic lines each using a different sound on a different channel.

Most modern synthesisers usually include a non-standard hybrid mode resembling a cross between Mode-3 and Mode-4, and often sporting a manufacturer specific name such as '*Multi*' or '*Special*' mode. It's like a polyphonic version of Mode-4, permitting you to play several simultaneous polyphonic lines, each using a different sound on a different channel. It's the most useful mode of all, as it divides up a polyphonic multi-timbral instrument into several smaller mono or polyphonic mono-timbral instruments. It's this which enables a single MIDI synthesiser to sound like a whole band of instrumentalists, for example playing drums, bass, piano, and string parts simultaneously. If you need this feature (and most people do) make sure it's on the instrument you buy. It may not be present on older secondhand instruments, where Mode-4 may be the nearest you can get.

There are two more Channel Mode messages, these being '*Local Control*' and '*All Notes Off*'. Local Control is useful when you're operating a synthesiser keyboard linked to a separate expander module via MIDI. When you play the keyboard you're likely to hear the sounds produced by the keyboard's internal sound source AND those from the expander. By using '*Local Off*' the keyboard may be disconnected from its internal sounds, but continue to transmit MIDI messages to whatever else is attached, so all you'll then hear is the expander's sounds. '*Local On*' reconnects the keyboard to its sound source again.

'*All Notes Off*' is like a panic button you can hit when experiencing the dreaded 'MIDI Drone'. Occasionally notes get



ST File

'stuck', usually when you've done something that unexpectedly interrupts the MIDI message stream. Notes may have been already triggered by Note-On messages, but their associated Note-Offs never arrive because of the interruption. The result is one or more continuously sounding notes which drone on forever. The All Notes Off message silences them with one simple command.

THE MIDI SEQUENCER

So far discussion has been slanted more towards the use of MIDI in a live performance situation, i.e. where you're playing sounds from a keyboard or other MIDI controller in real time. This was how MIDI's inventors originally intended it to be used, but very quickly another modus operandi emerged. Instead of generating a MIDI message stream from scratch each time, why not record it onto a suitable medium as it's played? Then it could be subsequently replayed from that medium into the MIDI system to recreate the original performance. Thus was born the MIDI sequencer, the recording/playback facility which has become the centrepiece of every modern MIDI system.

Although dedicated hardware based MIDI sequencers appeared (and some are still being produced today) it didn't take long for the computer to assume a leading role at the heart of a MIDI system. The computer's floppy and hard disk recording media proved an acceptable way of storing MIDI data, and software soon appeared which could easily perform the recording/storage/playback tasks required. The next logical step was to add editing and error correction capabilities, allowing MIDI data to be changed after it had been captured by the computer. This was a major breakthrough, as it allowed performance errors to be easily fixed. It also meant that virtually anyone could now produce a 'note perfect' performance of any piece of music.

The Atari ST soon became the number one music application computer as software houses began falling over themselves to produce software exploiting its unique built-in MIDI ports. Steinberg produced their classic Pro-24 sequencer (see review in NAU Issue 56), which sold in the UK for the staggering price (at the time) of around £300. Despite its high cost it sold in volume, ensuring it (and the Atari ST) became part of every serious hi-tech musician's studio. Pro-24 may be ancient history now, but you can still buy new copies of it for around £70, or about half this secondhand.

SYSTEM REAL TIME

It's all very well recording MIDI messages as data on a floppy disk, but how does a sequencer know when to transmit each one on playback? It needs a timing reference of some sort, and this is where the 'System Real Time' class of MIDI messages come in.

At the heart of MIDI there's a precise clock, providing a reference for timing the triggering of every MIDI 'event' (e.g. Note-On, Note-Off, etc.). By accurately fixing the time of each event the sequencer can send out the required messages exactly when needed. It also follows that note durations are easily handled - duration is the difference between the times of associated Note-On and Note-Off messages.

MIDI's clock doesn't use absolute time like a traditional clock, but works more like a metronome. You can vary the speed of it to suit the music you're recording, but instead of it ticking once per crotchet beat (a.k.a. quarter note) it generates 24 'pulses' per quarter note (or 24ppqn as it's known) and everything else is tied to this reference. So a minim lasts 48 pulses and a semibreve 96 pulses. Similarly quavers, semiquavers, and demisemiquavers last 12, 6, and 3 pulses respectively, and even triplet notes can be accommodated.

A MIDI event is always positioned on the nearest clock pulse, so some 'rounding errors' in timing occur when compared to the original performance. MIDI clock resolution isn't particularly high which can mean these rounding errors may become audible, so most sequencers operate internally at a higher rate. For instance C-Lab/Emagic's Notator sequencer runs at 192ppqn (or optionally 384ppqn) which allows finer positioning of events triggered from within it. Sequencers record time references along with the other MIDI information, and often represent it visually on-screen with a bar/beat/pulse timestamp. For example, a note occurring on the first beat of the first bar could therefore be stamped 1/1/1, and the second quaver of the third beat of the fourth bar as 4/3/13 (assuming 24ppq). This notation is often used in a sequencer's 'event editor', as we'll see in a later article when we look at a sequencer in detail.

MASTER AND SLAVES

A MIDI system often contains several devices, each of which may have its own clock. For instance you may have a drum machine and a synth keyboard each containing its own built-in sequencer, plus a software sequencer running on your ST. You could have sequences recorded on each, and want to play them all back together. Obviously you only need one timing reference, otherwise chaos would reign - it would be like having a separate conductor for each section of an orchestra! You avoid the problem by nominating one of the devices as the 'master clock' and the others as 'slaves' which can follow the master.

Normally the ST sequencer is the master, achieved by switching it to 'internal clock' mode. The others become slaves by switching them to 'external clock' mode. When you then start the ST sequencer playing, it intersperses MIDI clock messages with the rest of the MIDI message stream, so the drum machine and keyboard sequencers can synchronise with it. It's also possible to operate the other way round, to slave the ST to a drum machine or keyboard's master clock. This is achieved by setting the ST sequencer's clock to 'external' and the master device's clock to 'internal'.

You can even get a slaved device to follow master timing pulses derived from a human source. For example, by using one of the special 'human clock' interface kits now available it's possible for timing pulses to be generated by a live drummer bashing out a drumbeat in real time. These could then be used to sync the rest of the MIDI system to him!

Three more MIDI commands are available to control the playback of a MIDI sequence, namely 'Start', 'Stop', and 'Continue'. These are usually triggered by pressing the appropriate buttons on the MIDI device or by clicking the mouse on the software sequencer's on-screen control buttons. Start always sets a sequence running from the beginning, Stop halts the sequence, and Continue causes it to start from the point at which you previously stopped it, or from the point indicated by a MIDI Song Position Pointer, one of the MIDI messages we'll hear more about in the next issue. ●

CHAMPIONSHIP



Remember Football Manager? The game that appeared on every computer format under the sun, from ZX81 to IBM PC. It set a trend and started a demand for football management games that is still going strong today. Computer users like to see themselves as the next Brian "Now then young man!" Clough or "Kruger" Ron Atkinson chasing the glory and riches of the big leagues.

This is where Championship Manager 93 comes in. It is the latest in a long line of management games that claim to be next best thing to being a real manager. How many times have I heard that?

THE BUILD UP

Before you can even start you have to install the game which means that you have to copy the program onto 3 blank disks and install from these. You have the option of starting a new game which will mean that you can choose which team you manage and whether you have real or fictitious players. Settign up can take anything up to 30 minutes to complete but you do have the option of a quick start which means that you go straight in as manager of Man Utd. with the real players. Another option is to load up a previously saved game and continue from there. You can even load it onto the hard disk if you've got one and the program can be double clicked on from the desktop. I only found out about this by luck when I examined the directory of the disks and found a .TTP program that automates the copying process for you. No mention is made in the manual to this feature.

PICKING THE SQUAD

Once you are in you are presented with a screen that allows you to go to any point in the game and alter many of the options such as checking national squads, finding a new managers job and match reports. The one screen that you are going to spend the most time in is the squad details of your players. From here you choose who does and doesn't play, who you transfer in and out of the team and you decide whether to sack your backroom staff and choose which players your scouts are to keep an eye on.

Selecting players for your team is a bit different from previous games of this ilk. You first have to select the number at which you wish them to play and then select the player. Be careful that the player isn't injured, suspended or out of their contract and therefore out of contention until you re-sign them. This screen also allows you to inspect different sections of the club such as the accounts, transfers, league position and fixtures. The individual attributes of different players can be viewed as well as their history and averages.

Before you get around to playing a match you can alter the way in which your team plays in terms of the formation and position of the players in that formation. There is a choice of about 7 or 8 formations and they can be altered man for man later. Tactics available are predefined for you. They vary from the long ball to the Continental style that Man Utd employ.

KICK OFF

Now you've sorted out who's playing were and who's on the bench and who'll be taking the oranges on at half time, it's time for the match itself. This section is probably the most original of the game due to the fact that it is more original than any other game of this type. The screen has the time counting down in the top corner with the venue and competition in the other and the two teams in the middle. There are three bar gauges under each team for attack, midfield and defence which move up and down as time goes on to indicate the strengths of the individual sections of your team. The best thing about the match report is the running commentary that really makes games exciting, rather than the usual method of just watching the goals tot up. Comments vary from attempts at goal that are palmed over by the keeper to descriptions of clinically finished goals. The names of players are also included to add that little bit extra. This sort of thing makes the, normally boring, process of playing matches much more exciting.

BRING ON THE SUBS

During matches you can make substitutions if one of your sections is becoming tired or someone has been booked and you would rather not take the chance of them being sent off. You can also make a tactical decision such as pulling players back or changing formation. Once the game is over you'll be given the stats on the game.

Once you have won a couple of matches your players might become tired and need a rest so wouldn't it be good if you could play someone in their place? You need to buy some players (providing

MANAGER '93

you've got the money of course!). When looking for a player you can do a search for a particular type of player or look at a shortlist of players that your scouts have kept an eye on for you. Before you can buy the player you've got to put in a bid. This can be anything up to £5,000,000 for players like Gascoigne. You can put in a bid at the asking price or slightly above or below the price if there are other teams interested in good players. It then comes down to a battle of nerves to see who will get the player without paying too much. Once you've got him you've then got to negotiate a contract and wages which are worked out in the same way.

IN THE BACK ROOM

Playing games and selecting players is all very well, but there is more to a football club these days than just the match. Today you have backroom people who keep the team ticking over, people like coaches, scouts and physios. Each of these can be hired and fired if you think that the person isn't doing their job well enough and you can recruit a better person in the same way that you do with players. You can also resign from a club if you think that there is a better job elsewhere.

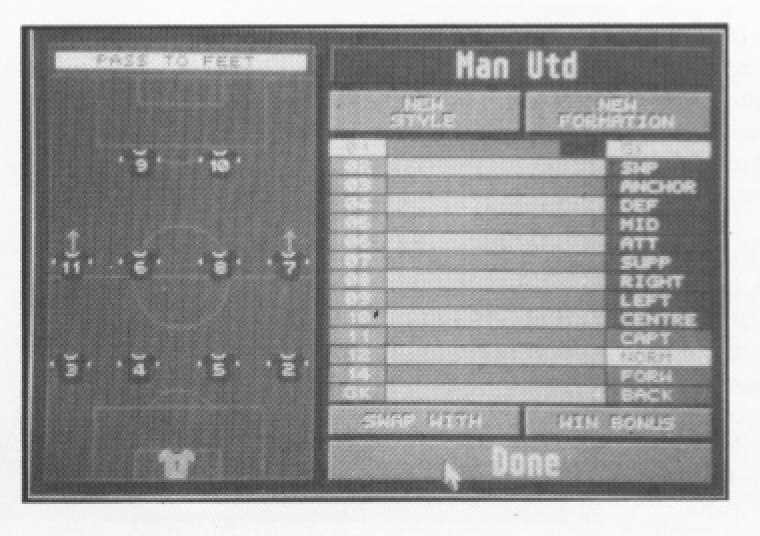
Finally there is a nice weekly news update that keeps you up to date with the goings on in your club such as injuries and suspensions and, on a wider scale, job opportunities at other clubs and takeovers.

THE LOOK OF THE GAME

The game itself is very well presented with nice big bold graphics and realistic features such as a vidiprinter for the match results after a game that can be turned on and off as required. The graphics are just right for the different sections of the game and don't make it look cheap and nasty as some of its competitors do. The nice touch of the team colours being used for the team names during matches and for the commentary is especially good as it easily identifies who the team in control is. The ability to pack large amounts of data and information on the screen at once is very well done and you never feel overcrowded by all the options and data.

The sound on this game doesn't really exist. You do get an nice tune at the beginning but nothing that would win a BRIT award. I was expecting perhaps a few white noise crowd cheers but I'm afraid that this game makes, about as much noise as an excited brick!

Playability is what counts in this genre of game. It doesn't matter how many bells and whistles you give it, the game will get nowhere if you can't get into it. This isn't the case with this game as you begin to submerge yourself in it very quickly and minutes rapidly turn to hours, as I know to my peril (I lost 4 hours to this game without even realising it!). The depth and the number of options make this game a worthy successor to the position that has been held by the original Football Manager for too long.



'94 UPDATE OVERLEAF



The ability to move from one team to another is a very innovative option that means that you can start off in the 3rd division and then rise slowly through the leagues with your team or make the leap-frog to higher divisions or more successful clubs. The involvement in more than just picking players and letting them get on with it is another point that needs to be mentioned. It means that for the first time you are more directly responsible for the outcome of games due to the fact that you can now make substitutions and change tactics during the game.

This is the sort of game that I would recommend to anyone who has an interest in football and even to those people, like myself, who don't. It didn't take any more than five minutes before I was hooked, a good sign seeing as I only like rugby! This game is definitely worth the money being spent on it. This game is no ex-parrot!

With the move of porting the game across to Microsoft Windoze we can expect to see the user base expand dramatically to the point were we have European expansion disks along with crowd violence and irregular dealings disks in the distant future (stranger things have happened!).

CHAMPIONSHIP MANAGER '93
Publisher : Domark
Compatibility : ST's, Falcon and Hard drive installable
Price : £25.99
Reviewer : Nicholas Bavington

F1



Fancy yourself as Nigel Mansell, Ayrton Senna or Gerhard Berger? Well now might be your chance with the new release from Domark of their aptly named, and straight to the point, F1.

Domark have the backing of the Formula 1 World Championship for this game. The box also boasts that it's the best, fastest and smoothest racing game ever. Well that remains to be seen. The game is a development of the game Vroom Multiplay. A game that never quite made it to these shores from France although I hear it was quite good. The game has been recently seen on the Sega Mega Drive and has established itself as the racing game on that console.



WRONG MUSIC!

The game starts off with a rather nice sampled tune that is appropriate enough and not too gimmicky. I was rather expecting the deep guitar riff from the Grand Prix program so this came as rather a surprise. You also get the usual ego trip, otherwise known as the credits, and then the game proper starts.

From the menu you enter the main menu from where you can choose all manner of different options and settings. You select the type of race from Demo, were you watch a race on any circuit, good for learning the layout to Arcade, where you simply have to pass cars. Training allows you to practice any circuit under proper race conditions and, finally, Championship allows you to enter a full seasons racing in the F1 World Championship. Loading and saving of seasons is handy plus as completing a season can take a very long time indeed. More about this later.

Title: **F1**
Publisher: **Domark**
Price: **£25.99**
Reviewer: **Nicholas Bavington**

Difficulty levels in a game like this are also very important due to the fact that if they are too hard they can put you off the game. You can, fortunately, decide on the realism and difficulty ranging from Novice where the car is virtually indestructible, the race is slower and the drivers are less aggressive in their tactics, right the way up to Expert where everything is as it would be in the real thing. Here everyone's out to win at all costs.

SETTING THE CAR UP

You can set the wing, tyre and gearbox setting to get the car suited to the race distance and the track that you are racing on. Monaco, for example, needs soft tyres and high wing settings to get the grip necessary to achieve high speeds on the tight sharp bends of the circuit.

If you want to race against your best friend, just to show him that you are faster than he is, it's easy. Just plug in a second joystick and fire up two player mode and away you go. Head to head action at breakneck speed. You select which track to race on as in all modes of the game.

RACE TIME

Before you get to the race itself you must qualify. Once this is done it's onto the 4 lap race and its finer points like pit stops. These are important as they refuel your car and can give you those new tyres that stop you sliding on those tricky corners. Be careful though, all the time you are in the pits your opponents are whistling past you at about 200 mph!

What of the game play and feel?. Well it's surprisingly good when you come down to it. It's fast and detailed but not up to that of Microprose Grand Prix which is, I believe, this game's biggest competitor. The tracks are nice and clear with very fast movement of the track-side ornaments such as billboards and trees. These are bitmaps but there are also vector polygons included that are used for the bigger shapes to get around the problem of moving large bitmap graphics around and still maintaining the high speeds. The tracks rise and fall as you drive up and down, the contours of the many tracks and the car behaves accordingly accelerating down and slowing up the hills, a nice touch missing from previous games.

Racing around the tracks can sometimes be a bit on the bumpy side, especially when you hit a tree or billboard at high speed. If you do hit something then you are placed back on the track after a short pause. You can take many of these hits at Novice level but only a couple at Expert. Leaving the track doesn't necessarily mean that you'll hit something as you can steer round trees and bollards and weave back onto the track just like in the real thing.

Formula 1 cars don't fly, right? well they do when you hit something hard enough! The track drops away below you as you sail through the air or looms up at you as your car goes up on its nose or if you are stopped in a hurry. Little things like that make the difference between games that have it and those that don't.

DETAILED GRAPHICS

The graphics of the car itself and the race status section on the screen are very detailed, in fact too detailed. The wing mirrors on the car are so small that they

are useless, you can't see a thing in them. The dash board is tiny and the dials and readouts are hard to read in a hurry and are totally obscured by your hands as you turn the wheel of the car. Realistic, perhaps, but not a lot of good if you are trying to power out of a corner with a manual gearbox. The map in the status section of the screen has a teeny weeny dot that represents you on the circuit. When I say that this dot is tiny I mean it. How on earth you are supposed to find it in the middle of a race I don't know. A larger dot would have been fine but, oh no, it must fit on the track and represent the car in exact scale. How about the designers thinking of the player rather than aesthetics next time?

ONLY ONE VIEWPOINT

All other games of this style at the moment have the ability to view the race from various different points. This is made possible by the use of vector graphics, which this game doesn't use, so I'm afraid your stuck in the sweaty cockpit for the entire race.

Sound is of the type that you would expect from this type of game, roaring engine and wheel screeches are intermingled with the doppler effect of passing other cars. Don't expect soundtracker modules.

Gameplay, as I have said, is very good and will keep you amused for a few hours. I don't think it will last more than that in any one sitting because it doesn't offer the variations that Grand Prix gives with the background being appropriate to the location.

The very short races of only 4 laps mean that this game is for the arcade racer out for a fix of high speed adrenaline rather than the dedicated tarmac thrasher ready to slog it out with the boys over 72 gruelling laps as in Grand Prix. This is a game is for the racer that likes the arcade feel but perhaps doesn't want the complexity offered by Grand Prix. If you want that kind of thing then this game is right up your street but if you like a more cerebral challenge then go for the slightly more expensive but more satisfying Grand Prix. ●

CHAMPIONSHIP MANAGER '94 SEASON DATA DISK

A new disk has recently been released for all those people that can't get enough of the original Championship Manager 93 with all the updated versions of the football leagues, all the transfers, take overs, promotions and relegations all bang up to date.

This disk is for those that felt that they'd played the game up to its limits but were still playing 93's teams in the 98 season. The installation process is the same as before needing three blank disks and the original disks. Booting with the new disk starts up the update process and makes a new game for you. This causes you to loose any games that you might already have saved so beware. This, I feel, is a big mistake. Starting from scratch again after building yourself up, even possibly achieving the unheard of treble, is not a laughing matter. I would suggest that you make a separate copy of the game and keep your old 93 version so that you can keep your saved games.

The data disk provides you with all the updated information on last year's league and information on this year's. The inclusion of Glenn Hoddle as player manager of Chelsea and other transfers are all there as are all the stats. The game play hasn't changed and if this is one of the reasons you might want to update the game I'm afraid data disk doesn't do that. Arguably, though, you could say that the new data makes it a new game due to different teams with different managers.

The interest factor of seeing whether you can make a better job managing your club this year than you did last year against new teams is the only reason to update, apart from the fact that it is bang up to date, which some people like, and this makes me personally like it. Although the data disk does add a certain amount of realism there is no more depth than the in the original. Also you must have the original version to play the update which means that people just considering buying a football game have to buy two games and negate the first one, rather than buying a new '94 version. I know that this would cost more to produce but games like Oh No, More Lemmings managed to produce an upgrade and a stand alone version so why can't a big company like Domark do the same thing?

I know that I have said this before but the one thing that is missing from this update is the ability to use a previously saved game from the 93 version. It would not have been very difficult to have included a conversion utility to update the saved game and then configure the update accordingly. Apart from that the data disk proves to be a worthwhile upgrade for those people who are madly interested in the game or something worth looking at for those who want to get more from the games they buy.

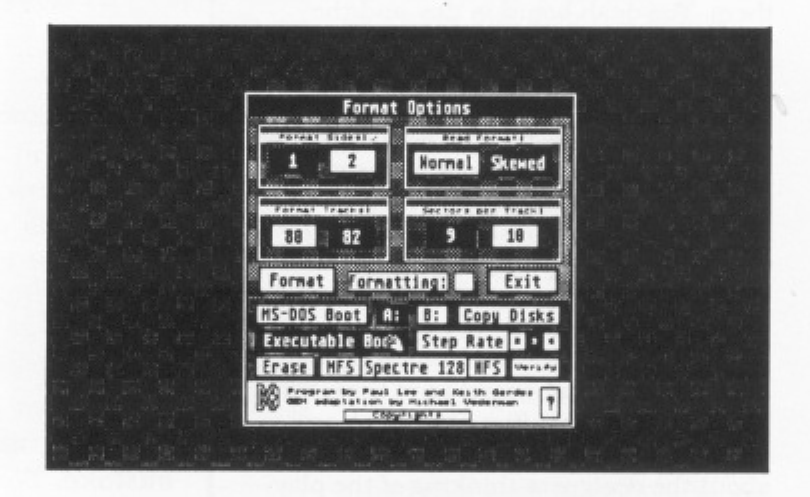
CHAMPIONSHIP MANAGER '94 SEASON DATA DISK

Publisher : Domark
Compatibility : ST's, Falcon
Hard drive installable
Price : £9.99
Reviewer : Nicholas Bavington

ST PUBLIC DOMAIN ROUNDUP



48 DOUBLE CLICK SOFTWARE PROGRAMS



This time I've decided to take a look at some ST utilities. There is only one disk reviewed but it features an amazing 48 folders! Yes, on disk ST864 you'll find 48 Double Click Software programs!

As many of you will know, Double Click are synonymous with useful, quality software. I would need about a dozen pages of this magazine to review each of the 48 programs in detail. Therefore, this issue's PD Roundup features an overview of as many DC utilities as I can squeeze into my maximum wordcount!

48 DOUBLE CLICK UTILITIES

First up is **DC HOMEY**. This is a small utility which positions the mouse pointer at the centre of the screen. You can now find the pointer instantly!

DC MOUSER will turn the mouse pointer on or off at the press of a key. This allows you to hide it from busy fingers.

With **DC MOUSE SAVER** you can turn the mouse off after a defined period of inactivity. Defining the period of time is easy - you just rename the program from DCMSAV20.PRG to DCMSAV?? .PRG where ?? is any number of seconds from 10 to 99. As soon as the mouse is moved it becomes active.

DC INVERT will produce a screen flash whenever a bell character (ASCII 7) is printed. This way, if you are listening to some music or you have the TV volume turned down, you can tell when an alert bell is sounded. DC Invert will also be useful to deaf users. You can set the flash rate from 1/20th of a second up to 1 full second.

DC J-CHAR lets you assign a character to a direction of the joystick. By pressing the joystick button you enter the character through the keyboard. This is very useful for scrolling through long text files and reading BBS messages - you can relax in your chair rather than having to lean over your ST. It may also be useful to the disabled as you can assign up to eight keyboard characters to the joystick, one for each direction. Non-printable characters such as Return and Line Feed are also catered for. Pressing the joystick button without choosing a direction represents pressing the right mouse button.

DC FLIGHT (Floppy Light) installs a routine into the read/write vector of storage devices (ramdisks, hard drives, etc.) so that each time such a device is accessed the Drive A light will come on until the operation is complete. This allows you to monitor device usage and also acts as a perfect substitute for devices which do not have a "busy" light, have a non-working "busy" light or are situated where they are not in plain view.

DC DISK INFO is designed to give you brief information on any disk. There are on-screen details of file allocation, free space, used space, maximum storage space, bad sector count, volume label, number of folders, number of files, etc.

For those of you who need to know even more about a disk there is **DC DISK STAT**. Information given includes: Total Sides, Total Sectors, Bytes per Sector, Sectors per Cluster, Total Clusters, Reserved Sectors, Hidden Sectors, Disk Size (in Kilobytes), Number of File Allocation Tables (FATs), FAT Size, Directory Size, Number of Entries, etc.

DC DIRDUMP is a very useful disk utility which will alphabetize the current directory and dump it to screen, printer or disk. If you are like me and have a very unorganized software collection then DC DirDump might be just the answer!

If you need to load a boot disk from the desktop then run **DC BOOTIT**, insert your boot disk and hey presto! This may be useful for changing the frequency before booting.

DC BACKSPACE HELP is a unique utility which prints a backspace character when you press the Help key. Why would you need this? Well, if you use your ST keyboard a lot then you will know how easy it is to press Help instead of Backspace! DC Backspace Help will put your mind at ease. For a regular Help keypress just use Control-Help.

DC R-T MAG (Real-time Magnifier) will magnify the screen around the mouse pointer. Move the mouse and the magnified section will move around the screen in real-time. This will be useful for any program where detail is required. It might also be handy for users who have poor eyesight (or tired eyes during a long session at the computer). You can turn R-T Mag on or off at any time.

If you are one of the many ST owners who hate having to change the screen resolution to run a program then **DC RUN REZ** is just the ticket for you! Before running the target program, DC Run Rez will automatically switch to the selected screen resolution. The whole process is very easy to use - you just inform Run Rez of the target resolution by changing the last character in the filename extender, e.g. ST Low = 1, ST Medium = 2, ST High = 3, TT Low = 4, etc.

DC SALVAGE is a basic file copier which will help you to salvage a file that contains a bad sector. The file is read in one sector at a time. If a bad sector is encountered an alert box appears and you are given the opportunity to re-try. Click on Cancel to move on. Once as many sectors as possible are read in, the file is copied to a destination of your choice.

A very handy utility is **DC TOPPER** V1.2. With this program you can select the window under the mouse pointer. In other words, if you have multiple windows at the GEM desktop you can bring any window to the top.

DC F-KEYS will assign a text macro to a single function key or a combination of modifier and function keys. You can assign up to 49 macros, each with up to 40 characters! If you enter the same text repeatedly this will be very handy! Non-printable characters are also supported.

For everyone who is fed up double-clicking the left mouse button there is **DC RIGHT DC**. A single quick press of the right mouse button represents a double click of the left.

Double Click Software also support left-handed ST users. **DC LEFTY** is a program which swaps the left and right mouse buttons. No more pressing the left mouse button with your middle finger! DC Lefty may also be useful for all users who have a faulty left mouse button.

Another mouse utility on the disk is **DC MOUSE SHIFT**. This emulates SHIFT, CONTROL and/or ALTERNATE by pressing the right mouse button.

If by now you feel like a break from utilities then why not play a game? 48 Double Click Utilities doesn't actually feature 48 utility programs - DC Software have included a small game called **DC CLICK ME**. A random amount of boxes appear on the screen. The words "Double Click Me" appear in one of them and you must quickly move the mouse pointer to that box and double click. You must move fast before the words move on to another box! The game ends after 30 double clicks and you are given your score. Although very simple, DC Click Me is quite fun to play and will improve your double-clicking skills.

Getting back to utilities, next up is **DC MAX TRACK**; a disk utility which gives you the total amount of tracks your disk drive can handle when formatting. I didn't run this one because there is a nasty disclaimer in the DOC file which mentions possible damage to sensitive drives. DC Max Track tests your drive from track 75 upwards.

DC MOUSE STICK is a program which lets you use a joystick to emulate your ST mouse. You can set the joystick port, mouse speed, etc. Useful also as a temporary replacement for a broken mouse.

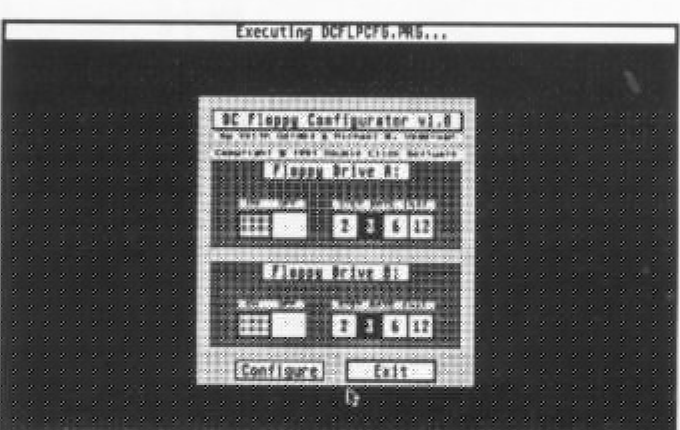
Now here's a great utility for all lazy computer owners: **DC MWRAP** (Mouse Wrapper) gives your mouse pointer the power to wrap itself off one side of the screen and onto the other. Instead of moving your mouse six inches across the mouse mat you only need to move it a couple! What will they think of next?

Yes, they keep on coming! **DC NO ALERT** is designed for the user who hates having to click on alert boxes. It stops an alert box from being displayed and will give the return of the default button, e.g. default = "Yes" for a "Quit?" alert box.

For hard drive owners there is **DC NO-STIC** (No Stiction). Stiction is when the head of your hard drive sticks after long periods of inactivity. Every five minutes, DC No-Stic will move the head to the beginning and end of each partition.

DC FORMATTER V3.0 is an impressive formatting utility with many options, including Number of Sides, Normal or Skewed Type, Number of Tracks, Sectors per Track, Executable Boot, etc.

Finally, if you need a feature-packed disk copier then **DCOPY** is for you! There are two versions on the disk - V1.9 has a few bugs but V3.0 seems very smooth. There are dozens of options available including all of the usual disk



functions (directory, copy, format, duplicate, erase, lock, etc.) plus a few others (directory search, hide files, etc.). Other options include text conversions, ARC utilities, etc.

The list of programs on 48 Double Click Utilities just goes on and on and on! There are many more useful utilities on the disk such as a screen dump, modem hang-up, digitized sound player, form feed sender, text/picture file viewer, etc., etc.

48 Double Click Utilities is exceptional value for money and should be in every ST users software collection. Double Click Software must be congratulated for producing such a wide range of useful programs. The only major problem with the disk is trying to find the folder you're looking for from the total of 48 included! If there is nothing of use to you on this disk then you don't own an ST!

ROUNDUP RATING

ST864 48 Double Click Utilities 92%

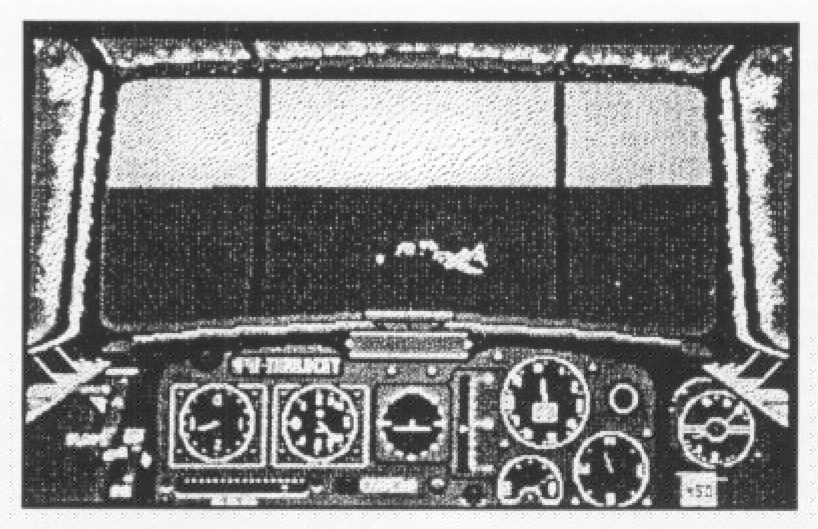
The disks featured in this review are all available from the Page 6 ST Library. Check the latest ST catalogue and updates or phone 0785 213928 for further information.

ROUNDUP conducted by Stuart Murray

BATTLEHAWKS 1942

Battlehawks 1942 is a World War II flight simulation. It's quite similar to "Their Finest Hour: The Battle Of Britain" released a couple of years ago, however this game was actually produced BEFORE Battle of Britain and, to be honest, it shows.

The game simulates the major air/sea battles between the Americans and Japanese in the Pacific. There are four scenarios to play - The Battle of the Coral Sea, The Battle of Midway, The Battle of the Eastern Solomons and The Battle of the Santa Cruz Islands. Each scenario contains four or five missions including dive bombing or torpedo attacks against enemy ships, fighter escort of bombers, and air superiority sorties.



The graphics used in the game are quite basic by today's standards. They are a little blocky, but they do animate quite smoothly. The planes move fairly quickly and shooting one down can be spectacular - first it begins to smoke, then you can see flames, then it plummets to the water's surface and sinks. Apart from their colour the aircraft types are almost indistinguishable from each other - unless you get very close to them, that is. Cockpit layouts look very similar too.

SMOKE AND FIRE

There are some very effective explosion, flak, and burning effects which add a lot to the game because they actually look quite realistic. Shoot something and it actually smokes, bits fall off, and if it's a plane it explodes or splashes into the sea. Ships burn emitting huge billowing clouds of smoke. All the missions are over the sea so there's not much to look at, apart from an occasional glint of light on the water's surface and a few enemy ships, the latter usually shooting flak in your direction!

Being a naval air combat simulation there are bombing and torpedo missions against enemy shipping, however when you get very close to a vessel the graphics quality deteriorates somewhat. It's then quite difficult to tell what you're attacking, because the target becomes peculiarly blocky - the pixels in it magnify and it doesn't look very good at all.

In between missions there's a Briefing Room screen. This is reasonably drawn, but is too 'cartoony' for my liking, and the colours are a bit gaudy (pilots don't usually have orange coloured skin, do they?)

Sound isn't bad considering the age of the program. Your plane's engine sound is a boring drone, but at least it rises and falls in pitch as you throw the plane about the sky. It can be turned off if you find it too annoying. The other sound effects consist mainly of explosions, gunshots, and splashes as a downed plane hits the water - which sometimes sound more like a rotten tomato splattering against a wall than a splash! I was surprised to find that the only sounds in the game come in the flying sequences - there's no music or sound effects between missions.

NO JOYSTICK?

Now, the gameplay. It's quite good, but does seem a little basic compared to more recent ST games. There are a couple of design flaws too, and these detract from your enjoyment. There's no joystick support(!) and the keyboard controls are somewhat unpredictable - sometimes you press a key and nothing happens. You press it again and still nothing happens. Then suddenly your plane is rolling violently and you can't stop the stupid thing! This is very frustrating and leads to many crashed planes. Mouse controls are a lot better - they respond quicker, but they make the planes seem too agile in the air.

The missions are really not bad. The air-to-air combat sequences are quite exciting and realistic - for example you have to master the art of 'Deflection Shooting' - aiming ahead of the enemy planes to be able to hit them. The bombing missions are harder than in a modern jet fighter sim, as there are no electronic weapon delivery systems to help you. You just dive at the target, manually release the bombs and pray you don't blow yourself up! If you're feeling wicked you could always shoot down a bomber that you are escorting, but you get severely ticked off for this after the mission ends.

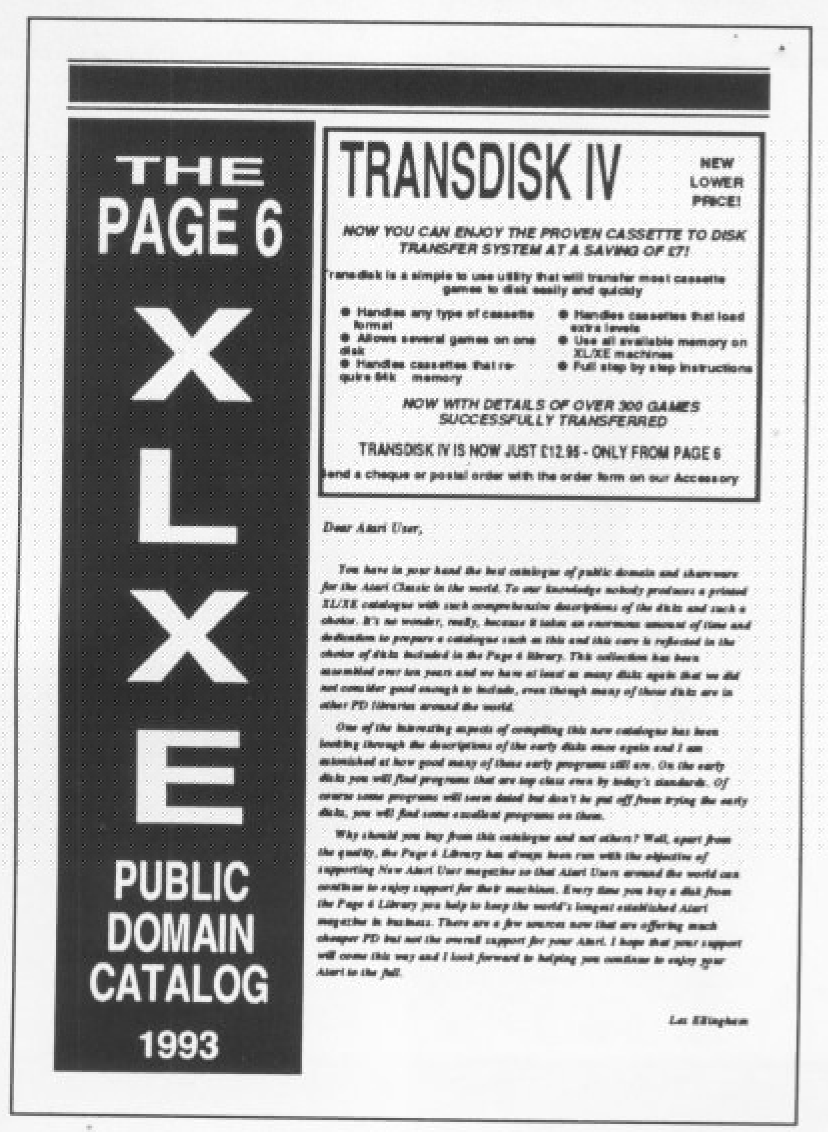
NO TAKEOFFS?

Disappointingly there are no takeoffs or landings at all in the whole game. You can choose your starting altitude before the mission begins, but there's no takeoff as such. Similarly, when you've blown up your target or quota of enemy planes, the screen simply fades out and you're back in the Briefing Room. You don't even have to fly back to where you started!

I've seen better flight simulations. Battle of Britain, for example, which is still available and is much more satisfying. I suggest that if you want a decent WWII flight sim, you go for that one which is more stimulating and enjoyable to play, especially with its wider variety of planes and missions. You can take off and land the aircraft, too! Admittedly, Battlehawks was written in 1988, so it was probably good in its time, but now it simply pales into insignificance against today's flight sims. It's a pity really, as with a bit more polish and gameplay it could have been an excellent game.

Title:	**BATTLEHAWKS 1942**
Publisher:	**Lucasarts/Kixx XL**
Price:	**£12.99**
Reviewer:	**Peter Davison**

this is the current XL/XE Public Domain catalogue



THE PAGE 6

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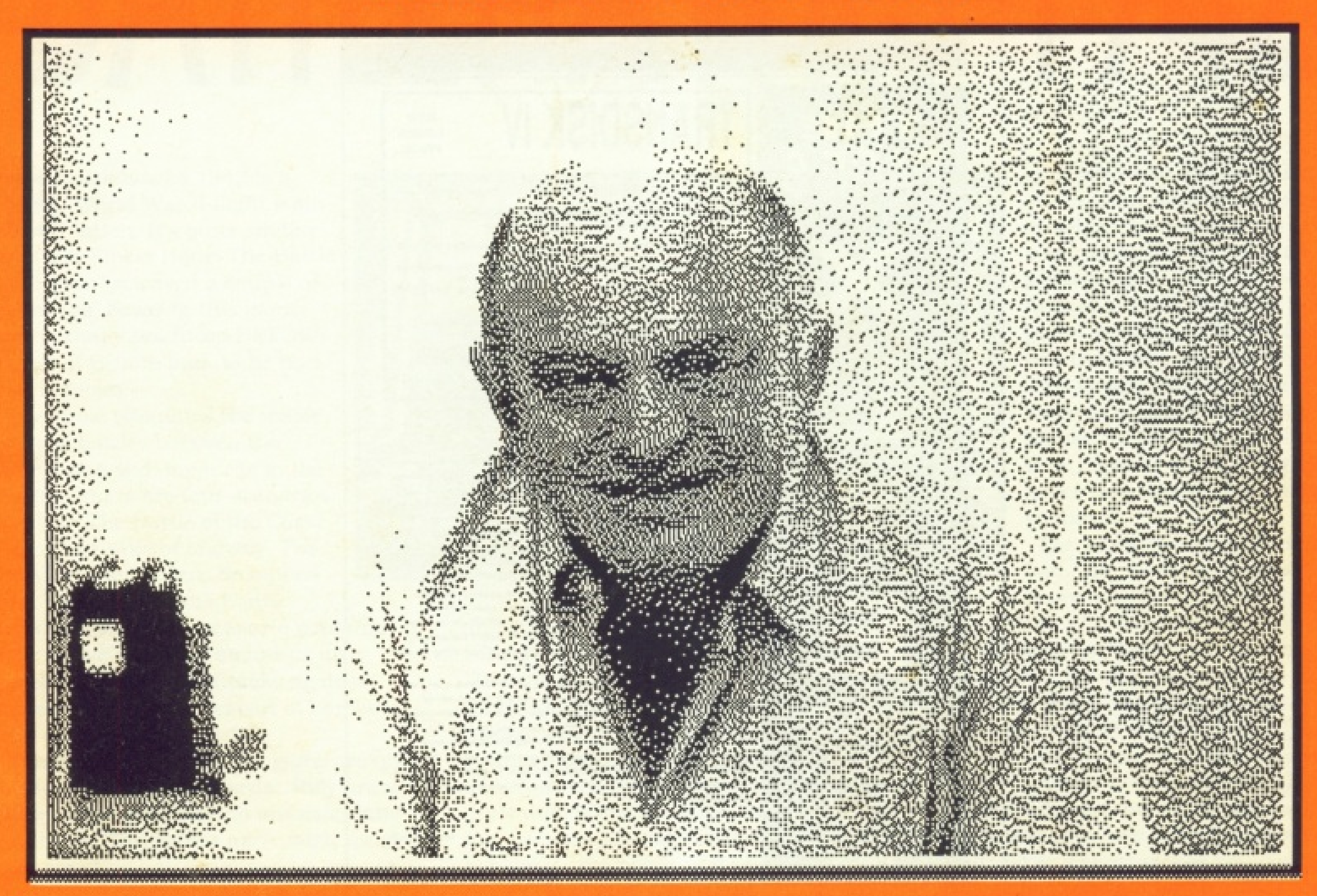
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